

Fever in Pregnancy: A Clinical Study at a Tertiary Care Hospital

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Abstract: Background: Fever in Obstetrics is a leading cause of maternal morbidity and mortality worldwide. Fever is a common complication during pregnancy. The decreased immune function in pregnancy makes women more susceptible to infections. Complications of fever in pregnancy affecting both the mother and the fetus. Fever has an effect on both maternal and fetal outcomes. Early diagnosis and active management will reduce the devastating outcomes of both fetus and mother. Aims and objectives: To determine etiology of fever in pregnancy in a tertiary care hospital and complications of fever in pregnancy to the mother and fetus. Purpose of study: This study aims to investigate the causes, and clinical outcomes of fever in pregnant women at a tertiary care hospital, highlighting its impact on maternal and fetal health. Method: A cross-sectional study was conducted at Cama Albless Hospital, including all patients with fever from April 2024 to August 2024. Results: This study evaluated 50 patients with fever during pregnancy and willing to participate in the study. The various demographic characteristics, details of pregnancy and materno-fetal outcome were evaluated. In this study, multigravidas (54%) were more prone to fever than primigravidas (46%). The incidence of fever was high in second trimester in 44% as compared to 3rd and 2nd trimester. Majority of the patients had fever of 3-4 days in 50% followed by 1-2 days in 40% cases, while 10% had fever more than 4 days. Miscarriage was observed in 6 % cases (3/50). Normal vaginal delivery in 14% cases out of 50 cases (7/50). LSCS in 12% cases out of 50 cases (6/50). 2/7 FTNDs had meconium-stained liquor, no NICU admissions. 2/6 emergency LSCS had meconium-stained liquor, 1 baby NICU admission. There were no fetal and maternal deaths. Among all the cases 24% had acute febrile illness, 22% had URTI, 16% had enteric fever, 16% had acute gastroenteritis, 14% had UTI, 6% had dengue, 2% had malaria, 2 % had TORCH group of infections, 4% had multiple coexisting infections. Fever makes pregnancy a high risk condition and increases the risk of miscarriage, need for emergency LSCS, meconium stained liquor, NICU admission for the baby. Fever during pregnancy is a significant cause of maternal morbidity and fetal complications. This study examines the etiology, duration, and outcomes of fever in pregnant women at a tertiary care hospital. A cross-sectional analysis was conducted from April 2024 to August 2024, evaluating 50 patients. The findings indicate that fever was more common in multigravidas (54%) and most prevalent during the second trimester (44%). The primary causes included acute febrile illness (24%), upper respiratory tract infections (22%), and urinary tract infections (14%). Adverse outcomes included miscarriage (6%) and increased emergency cesarean section rates (12%). This study underscores the need for early diagnosis and infection control measures to improve maternal and fetal health outcomes. Conclusion: In this study, it's seen many maternal and fetal complications occur due to fever in pregnancy from various etiologies. Early diagnosis and active management will reduce the devastating outcomes of both fetus and mother. Effective infection control measures should be emphasized at home, in the community, and in hospitals.

Keywords: Fever in pregnancy, maternal infections, pregnancy complications, fever and fetomaternal outcomes.

1. Introduction

Fever turns pregnancy into a high risk pregnancy. Fever in a pregnant woman is defined as either a single oral temperature of 39°C or greater, or an oral temperature of 38 -38.9°C that persists when the temperature is repeated after 30 minutes⁽¹⁾. Fever can be classified as low grade (37.3 to 38.0°C (99.1 to 100.4°F), moderate grade(38.1 to 39.0°C (100.6 to 102.2°F), high grade(39.1 to 41°C (102.4 to 105.8°F) and hyperthermia if greater than 41°C (105.8°F).

Etiology of fever can be infectious or noninfectious.⁽²⁾ Common infectious causes include respiratory infections (such as influenza or pneumonia), urinary tract infections, enteric fever, and intrauterine infections like chorioamnionitis, tuberculosis. Non-infectious causes can include inflammatory conditions like autoimmune diseases (such as lupus or rheumatoid arthritis), thromboembolic events, malignancies, and reactions to medications. Environmental factors: fever can also result from environmental factors like heat exposure, heat stroke or

dehydration. Pregnancy-related conditions associated with pregnancy, such as hyperemesis gravidarum can also lead to fever.

Fever during pregnancy can pose risks to both the fetus and the mother. A number of aetiologies of fever in pregnancy have been studied like respiratory tract infections, urinary tract infections, typhoid, malaria, dengue, influenza virus etc. and have been associated with adverse outcomes depending on the severity of the infection, period of infection and duration of the illness.

It is associated with various adverse outcomes such as preterm birth, low birth weight, congenital abnormalities, and maternal complications like preeclampsia and miscarriage. The severity of these outcomes depends on factors like the degree and duration of fever, gestational age, and any underlying conditions. Temperature rise during preimplantation period results in embryonic and fetal development might result in miscarriage, preterm birth, premature rupture of membrane (PROM), preterm premature

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rupture of membrane (PPROM), intrauterine growth restriction and stillbirth. Fetal complications in the late trimester included preterm birth, intrauterine growth restriction (IUGR), low birth weight (LBW), spontaneous abortion, fetal demise and poor Apgar score (less than 7) at 5 minutes after birth, increased risk of perinatal mortality.⁽³⁾

Intrauterine infection causes premature rupture of membranes, associated with at least one supplementary criteria among the following persistent fetal tachycardia, painful uterine contractions, spontaneous labor or purulent amniotic fluid. As pregnant women are generally susceptible to infections, early diagnosis and treatment can prevent adverse outcomes.⁽⁴⁾

Fever in pregnancy is a common clinical condition which increases risk of morbidity of the mother and fetus. This study is to find the variable medical complications of pregnant women suffering from fever and the possible fetal complications and association of fever with the variables age, parity, socioeconomic status, grade of fever, frequency of fever, etiology of fever among the pregnant women attending tertiary care government hospital. There are inadequate studies and lack of literature from specific area.

2. Method

A cross sectional study on pregnant women attending tertiary care government hospital. The study was carried out in a tertiary care hospital, which has an established and well-maintained medical record system. The hospital's medical records provided comprehensive data on patient demographics, clinical details, etiology and outcomes.

Inclusion criteria: Any pregnant women irrespective of parity consulting with a temperature greater than or equal to 37.5 °C (99.5°F) at inpatient department (IPD)

Exclusion criteria: Patient with immunocompromised status.

3. Results

The study conducted over a period of 4 months, 50 patients with fever during pregnancy were included in the study.

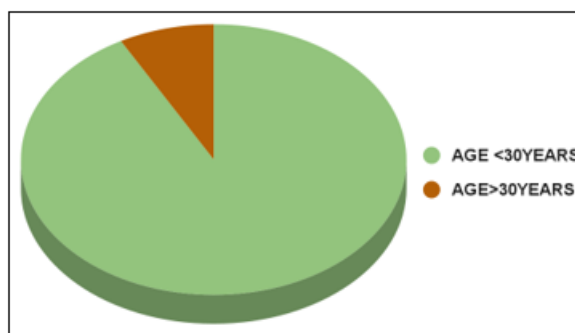
Distribution of subjects:

	Number	Percentage
Age		
<30 years	46	92
>30 years	4	8
Parity		
Primigravida	23	46
Multigravida	27	54
Duration of fever		
1-2 days	25	50
2-3 days	20	40
>3 days	5	10
Trimester		
First	13	26
Second	22	44
Third	15	30
Cause of fever		
AFI	12	24
URTI	11	22

WIDAL	8	16
ACUTE GASTROENTERITIS	8	16
UTI	7	14
DENGUE	3	6
P. FALCIPARUM	1	2
Multiple Etiology		
UTRI+WIDAL	1	2
ACUTE GE+SCABIES	1	2
Outcome		
ABORTION	3-13	6-23
FTND	9-15	60
MSAF	2	20
NICU	0	0
LSCS	6-15	40
MSAF	2	30
NICU	1	6

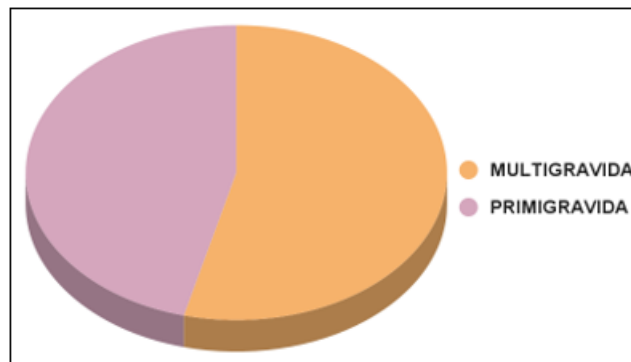
Age:

In this study, it is noted that pregnant women with age <30 years have more incidence than in the age >30 years.



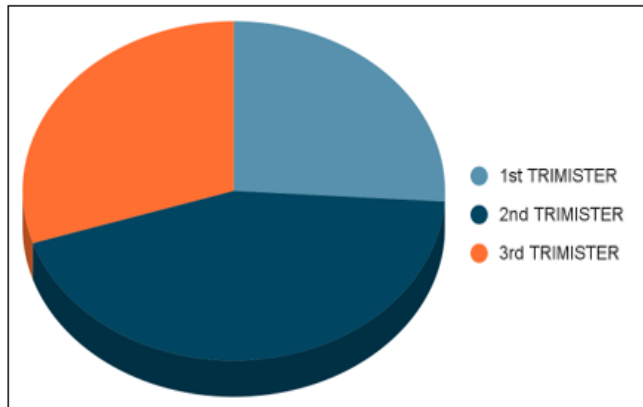
Parity

In this study, it is noted that multigravidas were more presented with fever than primigravida.



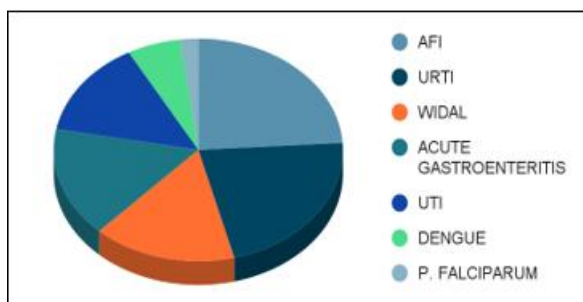
Trimester

The incidence of fever was high in second trimester and least in first trimester.



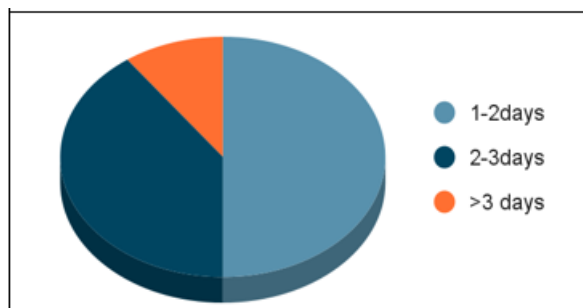
Causes of fever

Most common etiology being AFI followed by URTI and then UTI.



Duration

It was noted that patients had a fever maximum for 2-3days and at least after 3 days.



4. Discussion

The present study was a retrospective study conducted in the tertiary care centre. The current study evaluated the various aspects of the effect of Fever on Pregnancy. Effects of fever on pregnancy depend on the duration and etiology of fever. The current study found the majority of the subjects to be in the age range of <30 years this corresponds to the higher proportion of pregnancies in the population are less than 30 years. Multigravida women were more than primigravida, this was in contrast to the previous studies. This could be due to more multiparous women registered and being more aware about early management of fever and other symptoms and more awareness among multigravidas registered in tertiary care centers. The current study observed the highest number of subjects had undergone normal Vaginal delivery. Though the number of cases with LSCS were low, Meconium stained liquor was seen in 20% of total women delivered, more in LSCS vs Vaginal delivery, with 1 patient having NICU

admission. Meconium-stained liquor was present in 20% of patients delivered. Although the number of miscarriages was low, no direct correlation with fever could be established. Acute febrile illness was found between highest followed by upper respiratory tract infections, and a couple of patients were found to have multiple etiologies for fever.

Paracetamol is considered the safest option for fever management in pregnancy, with a recommended dose of 1g (two 500ng tablets) up to four times daily, not exceeding 4g per day.⁽⁵⁾

5. Conclusion

This study highlights the etiology and outcomes of fever during pregnancy, showing that multigravidas and second-trimester pregnancies are more affected. The most common causes were acute febrile illness and upper respiratory tract infections, with notable risks including miscarriage and emergency cesarean sections. Early diagnosis, effective infection control, and proper maternal care can mitigate adverse outcomes. Further research on preventive measures and management strategies is recommended.

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