

Fever in Pregnancy and Its Maternal and Fetal Outcome**P.M. Rekha Rao¹, Seshadri Sahaja^{2*}**¹Assistant Professor, Department of OBG, Government Medical College, Kadapa, Andhra Pradesh, India²2nd year Post graduate, Department of OBG, Government Medical College, Kadapa, Andhra Pradesh, India

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Abstract

Aims and Objectives: Fever in pregnancy is one of the most commonly encountered problems in Obstetrics. Objective of this study is to know the effect of Fever on Maternal and Fetal outcome. **Methods:** This is a Prospective Study conducted in Labour room, Department of Obstetrics and Gynaecology, GGH, Kadapa over a period of one year (September 2019-September 2020). 100 Antenatal Mothers who were admitted with Fever were included in the Study irrespective of the parity. Cause of Fever, its duration and episodes of Fever were assessed. **Results:** In this study, causes of fever were found to be Malaria (35%), Typhoid (14%), Covid (14%), URTI (12%), UTI (9%), Viral (11.4%), Dengue (8%), Viral (6%), LRTI (2%). Out of 100 Antenatal cases admitted with Fever, 55 delivered vaginally (55%), 35 delivered by LSCS (35%) and 10 were Abortions (10%). Among LSCS, 25 were due to obstetric indications (71.4%) and 10 were due to fetal causes (33.3%). Among vaginal deliveries 10 babies had fetal distress. Among 100 deliveries, 25 babies admitted to NICU, 15 were due to preterm & its complications (60%) and 10 were due to fetal distress (40%). There were no fetal and maternal deaths. **Conclusion:** In this Study, it is observed that Malaria is the Most common cause of Fever followed by Typhoid. Preterm and PROM were observed as the most common complications followed by abortions. NICU admissions were most commonly due to preterm and its complications and there were no fetal deaths. Hence it is suggested that Fever during Pregnancy need to be evaluated promptly and intervened timely to have a better maternal and fetal outcome.

Keywords: Fever, malaria, Typhoid, NICU, Fetal outcome.

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Introduction

Fever in pregnancy is one of the most commonly encountered problems in Obstetrics. Pregnancy is an immunocompromised state (Immune function is usually decreased in pregnancy) due to which the pregnant women are more prone for infections. In presence of maternal fever, fetus is exposed to various inflammatory mediators which in turn affect the fetal outcome. Fever has a definitive implication on the development of normal fetus [1-4]. Temperature >37.5 C on 2 occasions 24hrs apart is defined as fever. Fever is a non specific indicator of disease. It signifies the immune response of the body to toxins either exogenous or endogenous. It means a battle is going within the body [5]. Most of the Obstetricians often face problems in treating fever in pregnancy due to its atypical presentation, as most of the symptoms of the disease overlap with the physiological symptoms of the pregnancy. So, more focus to be kept on evaluating the history, reaching to a proper diagnosis and make sure proper treatment given to the mother so as to reduce the adverse maternal and fetal outcome [6]. Here we have performed a study on antenatal women presented with fever to determine the effect of fever on maternal and fetal outcome. The specific objective of our study is to assess various complications of pregnant women suffering from fever and also the possible fetal complications.

Materials and Methods

Present study was a prospective observational study conducted in the

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Department of Obstetrics and Gynaecology, Department of Obstetrics and Gynaecology, Government General hospital, Kadapa during the period of 6 months (January 2020 to June 2020).

100 Antenatal mothers who presented with fever were included in this study irrespective of parity and booking status. 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 were excluded in this study.

After obtaining the consent from the selected patients, a detailed history noted including age, parity, Socioeconomic status, Booking status, Duration of fever, Type of fever (continuous or intermittent), Any associated symptoms (chills, rigor, burning micturition), Any H/O evening raise of temperature. Any travel history. Any H/O contact with person having fever [7].

A meticulous general examination and obstetric examination were carried out. On general examination, patients level of consciousness, degree of anemia, edema, jaundice, any signs of cyanosis were noted. Vitals like pulse rate, Bp, temperature, respiratory rate were noted. Then the study subjects were thoroughly investigated by necessary investigations like Complete blood picture, Peripheral smear, Complete urine examination, Urine for 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 subjects were followed up from enrollment in study till discharge from hospital after delivery. All the data was recorded in a pre designed case record form for individual subjects. Maternal and fetal outcome were noted. Maternal parameters for assessment included age, parity, duration of fever, gestational age at the time of presentation, cause of fever, treatment given, mode of delivery and maternal outcome. Fetal parameters which we included were birth weight, need for NICU admission, duration of stay in NICU, neonatal outcome. All incidences of complications, fetal outcome

were recorded and percentages were calculated using Microsoft excel 2007.

Results

Age

Majority of the patients presented with fever were within the age of 20-30 years.

Parity

In this study, it is noted that primigravidas were more presented with fever than multigravida.

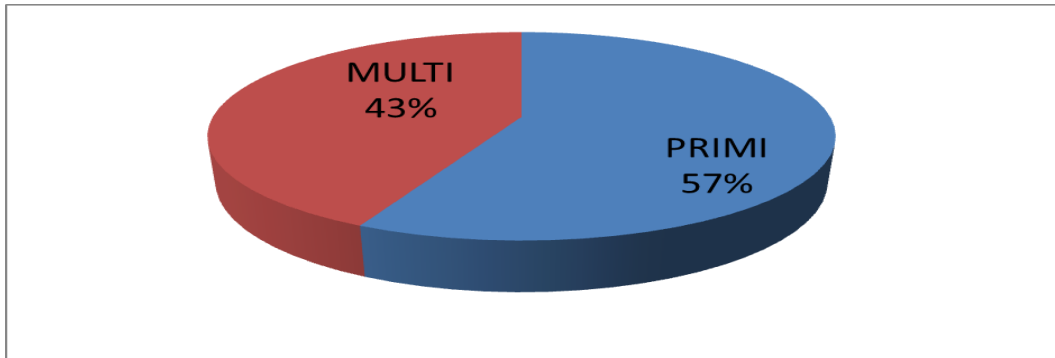


Fig 1: Parity

Trimesters

- The incidence of fever was high in third trimester (60), followed by second trimester(28), then first trimester(12).

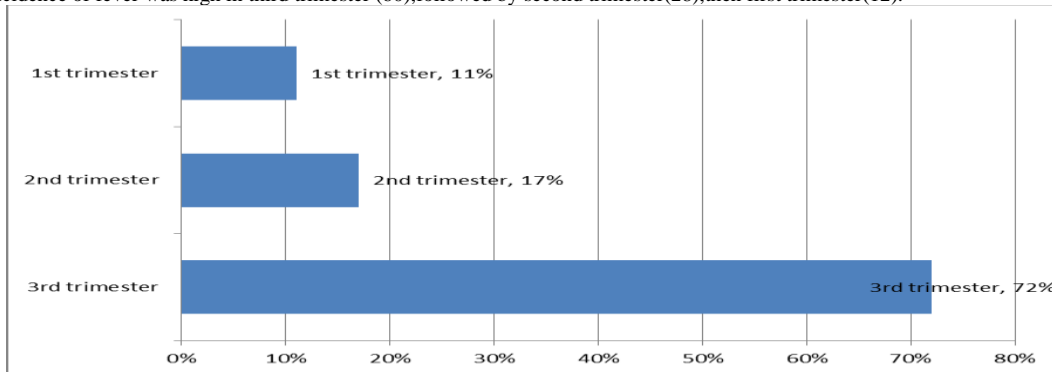


Fig 2: Trimester

Duration: Majority of the patients had fever with duration of 3 days followed by 2 days and then 4 days. A linear association was observed between the duration of fever and fetal outcome

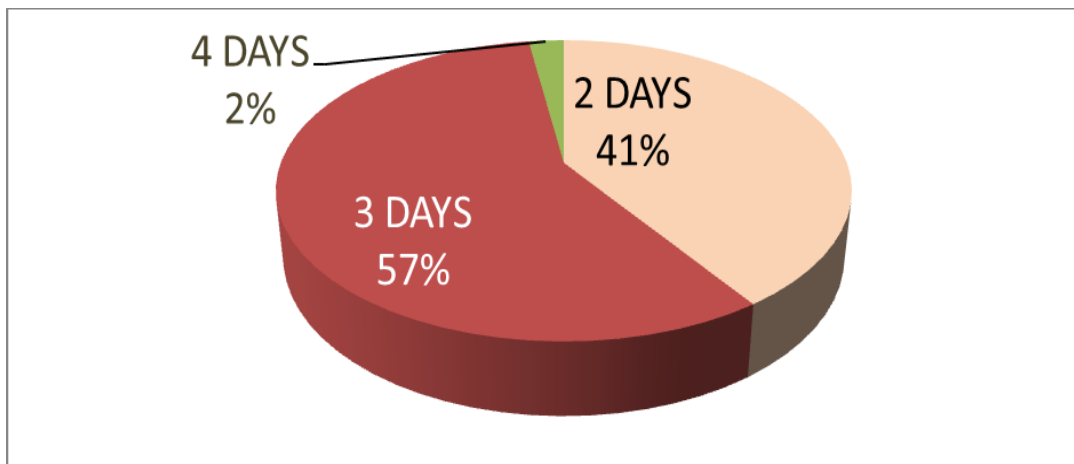


Fig 3: Duration

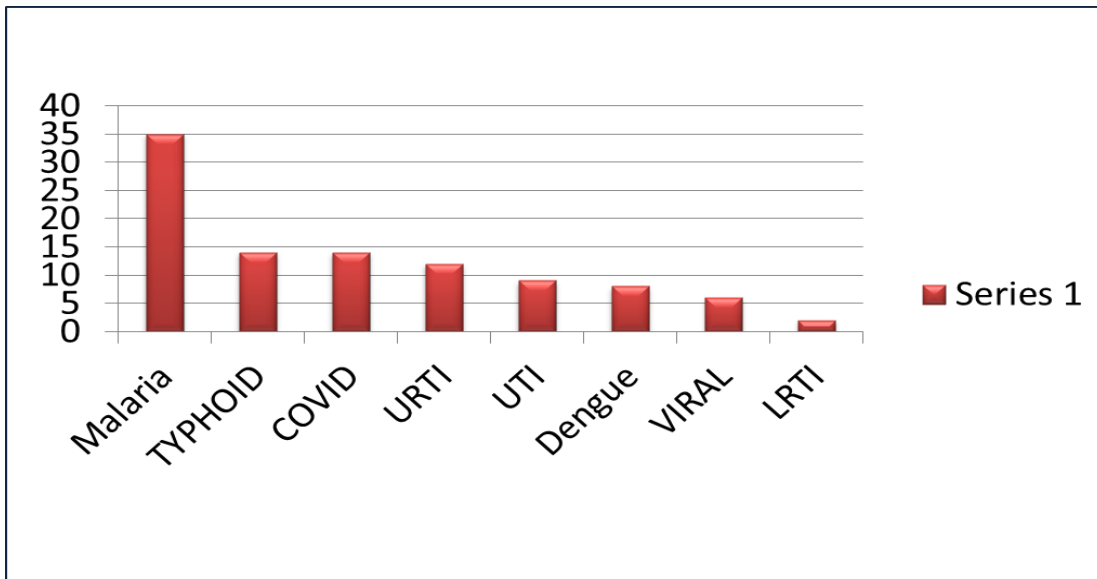


Fig 4:Causes of Fever

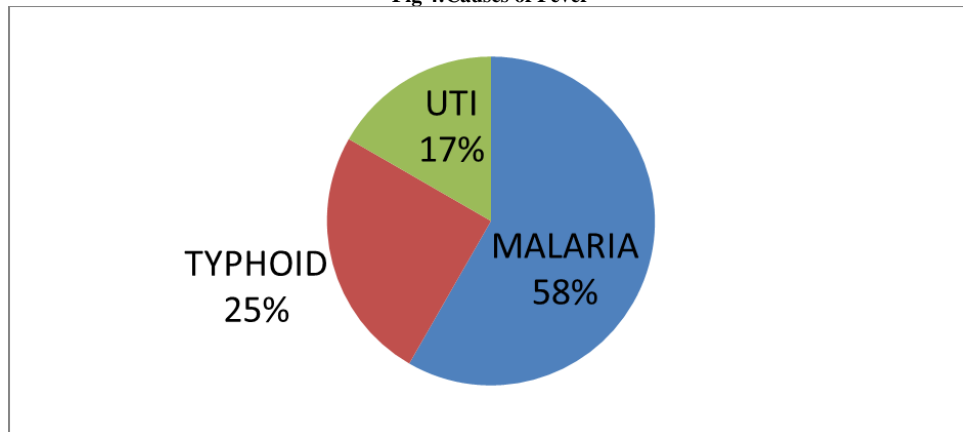


Fig 5: 1ST Trimester

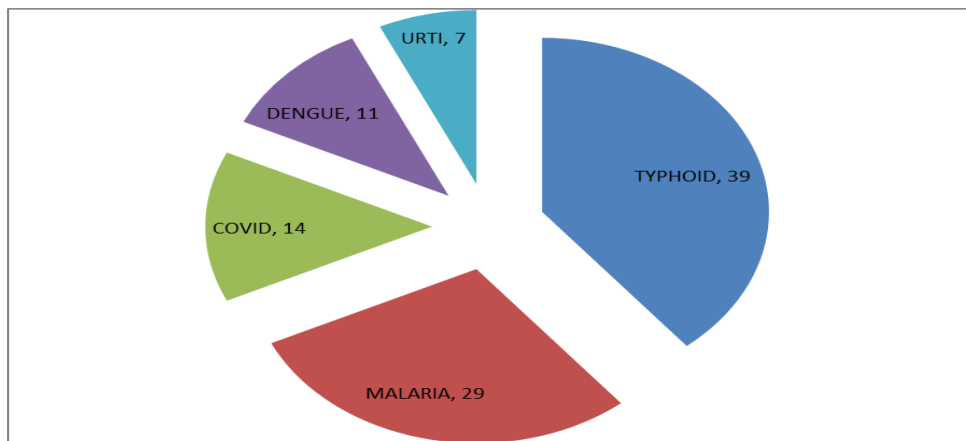


Fig 6: 2ND Trimester

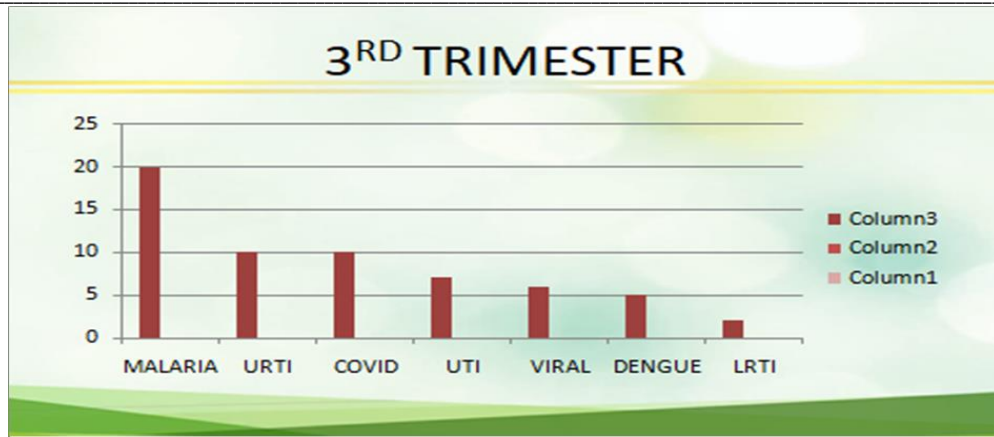


Fig 7:3rd Trimester

Malaria is found to be the most common cause of fever in pregnancy in this study

Effect of Malaria

Pregnant women are more susceptible due to attenuation of their immunity to malaria.

1. Parity: Primigravida > multigravida. There is a progressive increase in immunity status with rising parity.
2. More commonly seen in 3rd trimester.
3. Complications are more pronounced in women with Malaria.

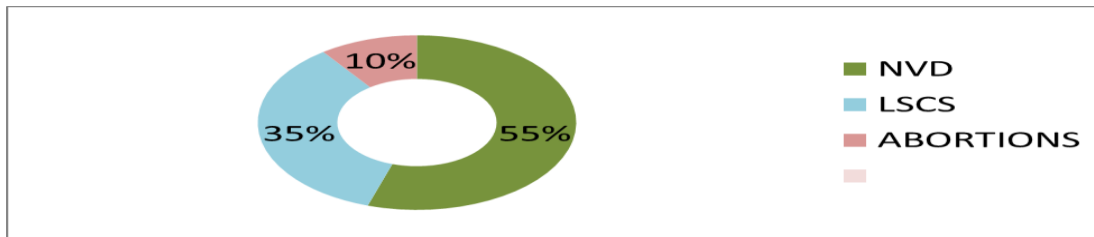


Fig 8: Mode of Outcome

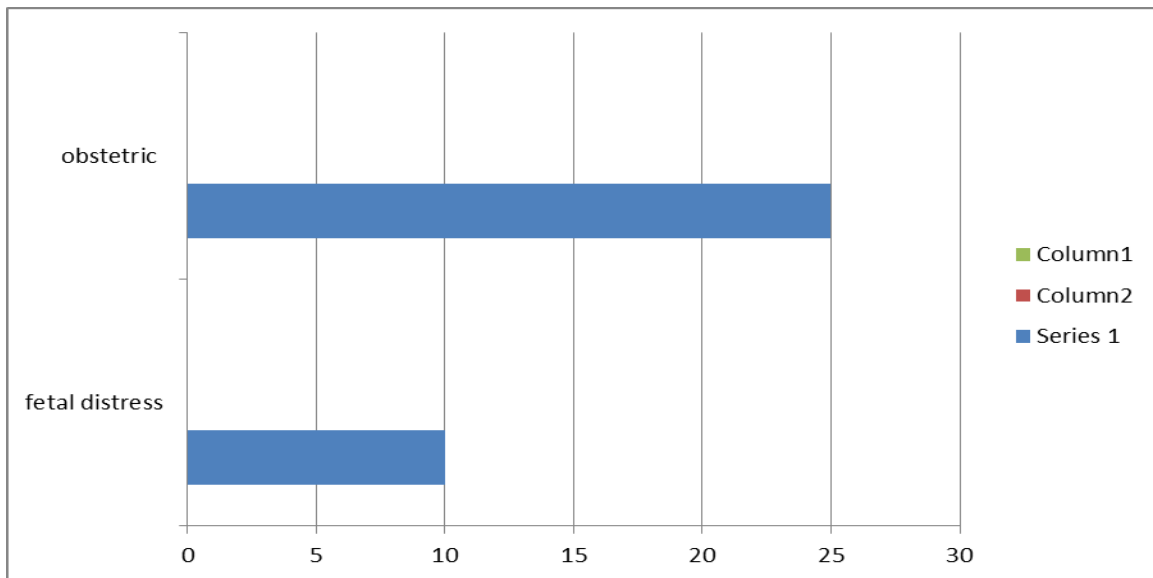


Fig 9:Indications of LSCS

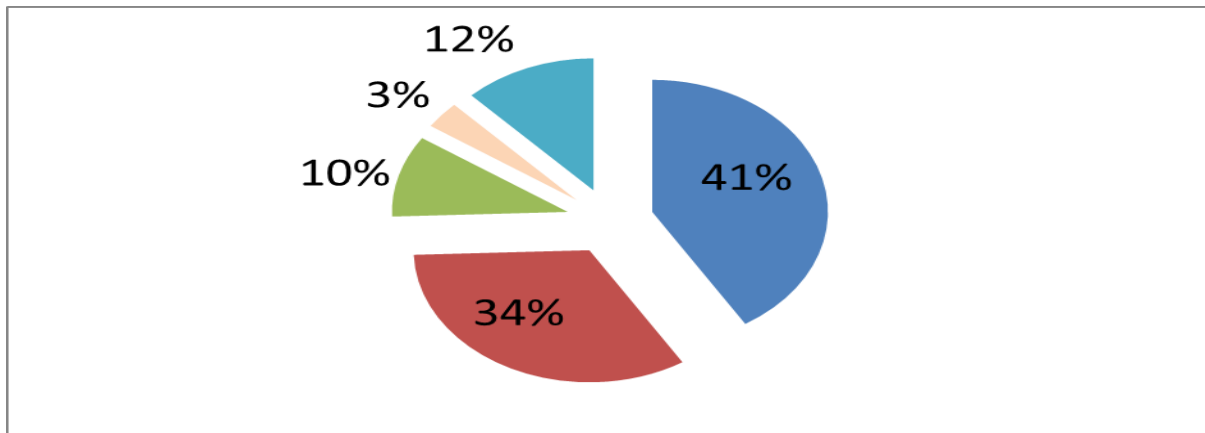


Fig 10: Complications

Fetal Outcome: 25 babies needed NICU admission. Out of which 15 are due to preterm and its complications and 10 due to MSL and fetal distress. NICU ADMISSION

Discussion

- The present study was a prospective study conducted in the tertiary care centre in Government General Hospital, Kadapa provides an evidence of effect of Fever on Pregnancy. Effects of fever on pregnancy depend on the extent of temperature rise, duration and etiology of fever.

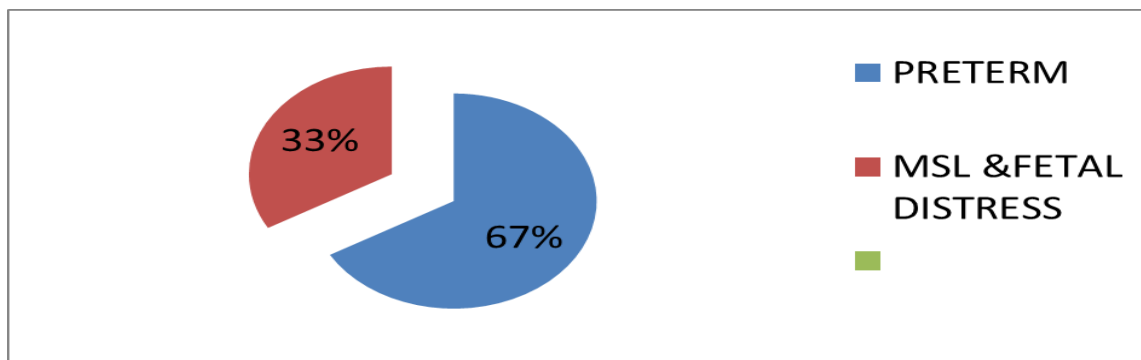


Fig 11: Fetal outcome

- In this study causes of Fever were found to be Malaria (35%), Typhoid (14%), Covid(14%), URTI(12%), UTI(9%), Dengue (8%), viral(6%), LRTI(2%).

The incidence of Malaria observed in our study is less when compared to the previous studies observed by Hay and colleagues in 2004 which showed malaria incidence as 48%. The incidence of fever was high in third trimester. This is contrast to the previous studies which showed increased incidence of fever in 1st trimester.

- Incidence of fever is more in Primigravida in this study. Previously three studies reported that Primigravidas were more likely to exhibit fever than multigravida. Hence there is a need to educate and proper counselling to be given to the women who are getting pregnant for the first time, for the prevention of this condition. Previously three studies reported that Primigravidas were more likely to exhibit fever than multigravida[8].

In previous studies, miscarriages were the most commonly occurred complication. In our study, rather than miscarriage, Preterm birth, PROM, Oligohydramnios, IUGR and fetal distress were commonly encountered [7-9]. In the present study, Malaria was more commonly encountered in 1st and 3rd trimester, 35 cases of malaria were noted. Out of which 4 got aborted 2 in 1st trimester and 2 in 2nd trimester. 12 cases had preterm deliveries. 8 cases had PROM, followed by Fetal

distress in 4 cases. In the present study 14 cases had COVID 19. Out of which 4 got aborted, 5 had vaginal delivery and 5 had LSCS. Among them, 5 babies needed NICU admission and there were no maternal and fetal deaths. In the present study, 8 cases had dengue fever, out of which 2 got aborted in 2nd trimester. Preterm was the common complication encountered. Among the 100 cases, 10 got aborted. Most commonly abortions were noticed in the first trimester followed by second trimester. 55 had vaginal delivery, 35 had LSCS. There were newborns with more than one complication. 25 cases needed NICU admission. Out of which 15 are due to preterm and 10 were due to fetal distress and meconium aspiration. There were no fetal deaths. Adverse fetal outcome was more common. So, it is thought that pyrexia related changes in uterine environment can affect fetal well being[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.

Different causes of fever had different impact on pregnancy and its outcome. Preterm deliveries were more commonly associated with Malaria, Typhoid and Covid. Abortions were more commonly

encountered in 1st trimester. Hence Fever in pregnancy has to be thoroughly evaluated to have a better Maternal and Fetal outcome. "Motherhood is a boon to every woman. It is our responsibility to ensure the mother a safe pregnancy and to have a better maternal and fetal outcome."

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