"EVALUATION OF GROWTH OF NEONATES BORN TO HYPOTHYROID MOTHERS - A CROSS-SECTIONAL STUDY"

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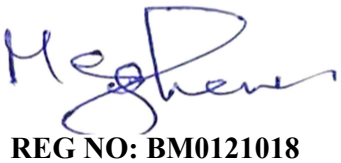

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With reference to the above, we wish to inform you that your proposed research project titled **"EVALUATION OF GROWTH OF NEONATES BORN TO HYPOTHYROID MOTHERS -A CROSS SECTIONAL STUDY."**, is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee.

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LIST OF ABBREVIATIONS

AGA	Appropriate for gestational age
fT4	Free tetra Iodo thyroxine
IUD	Intrauterine death
IUGR	Intrauterine growth restriction
LBW	Low birth weight
LGA	Large for gestational age
SCH	Subclinical hypothyroidism
SGA	Small for gestational age
T3	Tri Iodo thyroxine
TBG	Thyroid binding globulin
TPOAb	Thyroid peroxidase antibodies
TRAb	Thyroid receptor antibodies
TRH	Thyroid releasing hormone
TRH	Thyroid releasing hormone
TSH	Thyroid-stimulating hormone

ABSTRACT

“EVALUATION OF GROWTH OF NEONATES BORN TO HYPOTHYROID MOTHERS -A CROSS-SECTIONAL STUDY”

INTRODUCTION: The prevalence of hypothyroidism among pregnant women is 1.5%–4%, according to numerous research conducted worldwide. Of them, subclinical hypothyroidism (SCH) predominated, with overt hypothyroidism (OH) accounting for 0.3% to 0.5% of cases. The frequency of maternal hypothyroidism in India has been reported in a variety of research ranging from 1.2% to 67%. Over time, sufficient data has been gathered regarding the thyroid's function in the fetal brain's healthy development. The effect of maternal and fetal thyroid function in the normal range is less known. We therefore aimed to assess neonatal growth parameters Length, Weight, and Head Circumference of babies born to hypothyroid mothers.

OBJECTIVES:

- Primary objective: To study the growth parameters Length, Weight, and Head Circumference in babies born to hypothyroid mothers
- Secondary objective: To study neonatal outcomes like Gestational age, Respiratory complications, Sepsis, and Neonatal jaundice in babies born to hypothyroid mothers.

METHODS: A cross-sectional study conducted between April 2023 to March 2024 in neonates born to hypothyroid mothers at KLE’s Dr Prabhakar Kore Hospital. The baby's head circumference, weight, and length are taken at birth.

RESULTS: Among 273 mothers 269 were subclinical hypothyroid and 4 were overt hypothyroid.SGA among the neonates born to hypothyroid mothers diagnosed in 1st trimester was 46.1%,2nd trimester was 17.4% and 3rd trimester was 6.9% significant difference was observed between the trimester of diagnosis of maternal hypothyroidism and birth weight with p-value <0.000001.SGA for both weight and length of neonates born to mothers diagnosed in 1st trimester are 12.4%,2nd trimester were none and those diagnosed in 3rd trimester are 2.9%. The mean head circumference of neonates born to mothers diagnosed with hypothyroidism in 1st trimester was 32.4 ± 1.51,2nd trimester was 33.53 ± 1.38, and those diagnosed in 3rd trimester were 33.74 ± 2.39. A significant difference was observed in the trimester of diagnosis of maternal hypothyroidism and head circumference of neonates with a p-value of 0.036. A significant difference was not observed between the trimester of diagnosis of maternal hypothyroidism and the newborn length.

CONCLUSION:

In our study, SGA babies born to women identified with hypothyroidism in 1st trimester are 30.3% which was statistically significant and a significant variation was allying the trimester of diagnosis of maternal hypothyroidism and head circumference.

From this, we emphasize the importance of early diagnosis, regular monitoring, and dose revision throughout the pregnancy.

The first part of pregnancy is when the association between maternal and fetal thyroid hormone synthesis is most significant. The mother's transmission of thyroid hormones is vital, particularly in the 1st trimester, as it is necessary for the early growth and maturation of the fetal brain.

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INTRODUCTION

Pregnant women often have hypothyroidism, but the rate of discovery has not kept up with the severity of the issue, particularly in developing nations like India. Adverse fetal and maternal outcomes can be decreased by early diagnosis and management of hypothyroidism, as it is easily treatable.

Thyroid functions change during pregnancy in multiple ways. Thyroxine-binding globulin (TBG) elevates early in the 1st trimester, becomes constant during mid-gestation, and remains the same until shortly after delivery.

The thyroid gland keeps the body in a state of euthyroidism during pregnancy, with only slight variations in serum T4 and Thyroid stimulating hormone. Hypothyroidism can occur in women with low thyroid stores because of thyroid autoimmunity/iodine shortage. Between 0.3% and 10% of pregnancies are diagnosed with maternal hypothyroidism[3,4]. About 2.5% of pregnancies are diagnosed with overt hypothyroidism[5]. Thyroid dysgenesis, thyroid hormone synthesis abnormalities, excess or insufficient iodine, and the transplacental transfer of maternal antibodies or drugs can all result in congenital hypothyroidism[3,6].

There are multiple lines of evidence indicating the role of thyroid hormone in controlling fetal growth. One well-known side effect of both uncontrolled Graves' disease and hypothyroidism during pregnancy is low birth weight[4,5]. Babies without thyroid hormone resistance who are born to mothers with high thyroid hormone levels typically have low birth weights[6]. Birth weight reduction is linked to fetal thyrotoxicosis, which is due to an activating mutation in the TSHR gene [7].

It is believed that inadequate transplacental passage of maternal thyroid hormone [8] leads to low-birth-weight correlating with overt thyroid disease in mothers.

Preeclampsia, an increased chance of spontaneous miscarriage, preterm delivery, abruptio placentae, perinatal death, and low birth weight are among the mother issues linked to untreated or undertreated hypothyroidism in pregnancy. Pregnant women treated with l-thyroxine experience a significant reduction in these problems[7]. Over time, sufficient data has been gathered regarding the function of the thyroid in the healthy development of the fetal brain.

The effect of maternal and fetal thyroid function in the normal range on fetal growth is less known. We therefore aimed to assess neonatal growth parameters like Length, Weight, and Head Circumference of babies born to hypothyroid mothers.

AIM AND OBJECTIVES

AIM:

The purpose of the study is to evaluate of growth of neonates born to hypothyroid mothers.

OBJECTIVES:

Primary Objective:

- To study the growth parameters Length, Weight, and Head Circumference in babies born to hypothyroid mothers

Secondary objectives:

- To study neonatal outcomes like Gestational age, Respiratory complications, Sepsis, and Neonatal jaundice in babies born to hypothyroid mothers.

REVIEW OF LITERATURE

PREVALENCE OF HYPOTHYROIDISM IN PREGNANCY:

The thyroid gland and its functions are impacted by pregnancy. The definition of hypothyroidism during pregnancy is defined as elevated levels of serum TSH [1]. It is classified into subclinical (normal free T4 levels) and overt hypothyroidism (lower free T4 levels) based on free T4 values[2].

The prevalence of hypothyroidism among pregnant women is 1.5%–4%, according to numerous research conducted worldwide. Of them, subclinical hypothyroidism (SCH)[3,5] predominated, with overt hypothyroidism (OH) accounting for 0.3% to 0.5% of cases. The frequency of maternal hypothyroidism in India has been reported in a variety of research ranging from 1.2% to 67.0% [6,7].

Iodine shortage is the most prevalent cause of hypothyroidism among pregnant women worldwide, while autoimmune thyroiditis is the more common cause in places where iodine is adequate [4,5,8]. Additional frequent reasons include thyroidectomy, radioiodine therapy, congenital hypothyroidism, medication use (e.g., phenytoin and rifampicin), and any hypothalamic pituitary illness [4,5,8]. Conceptually, women with fewer thyroid stores are frequently not able to handle the elevated metabolic demands of pregnancy and may get hypothyroidism. The fetus depends on the maternal thyroid levels, particularly during the 1st trimester because iodothyronines cannot be produced before ten weeks of gestation. This is when a lack of iodothyronine [9] may significantly impair the fetus's neurodevelopment.

The estimated prevalence of hypothyroidism worldwide is between two and three percent. There are roughly 0.2-2.5% subclinical hypothyroid people and 0.3-1.2% overt hypothyroid people.

There have been reports of a substantially higher prevalence of hypothyroidism among the Indian population, ranging from 4.8% to 11%. 15 There are significant differences in prevalence between Asian and Western nations. Similar variances have been documented within India, with northern states reporting a higher occurrence. The geochemical nature of the iodine deficit brought on by floods, heavy rains, and glaciers may be the cause of the reduced iodine concentration in the soil and water.

According to a study by Shravani M. R. et al., conducted at Bangalore 11.8% of mothers had hypothyroidism, of which 86% had subclinical hypothyroidism and 12% had overt hypothyroidism. This is because universal screening has replaced high-risk screening for hypothyroidism, which may go undiagnosed and untreated .[45]

Dhanwal et al. did a multicentric study to find out the prevalence of hypothyroidism in pregnancy in 11 cities from 9 states of India. They reported that 13.1% of pregnant women had hypothyroidism with a cutoff Thyroid-stimulating hormone level of 4.5 μIU/ml. Their report is shown in the below picture.

Table no-1 Demographics of Maternal Hypothyroidism in India

City	Hypothyroidism prevalence (%)
Uttar Pradesh (Allahabad)	15.66
Karnataka (Bengaluru)	7.8
Haryana (Rohtak)	19.4
Tamil Nadu (Chennai)	8.69
West Bengal (Kolkata)	11.76
Telangana (Hyderabad)	8.59
Maharashtra (Nasik)	14
Delhi (New Delhi)	16.21
Maharashtra (Pune)	17.85
Kashmir (Srinagar)	39
Andhra Pradesh (Vizag)	8.94
Total	13.13

Mahadik et al. surveyed Ujjain, Madhya Pradesh on the Study of pregnancy's thyroid function and its effects on the fetus and mother. According to their assessment, the prevalence of thyroid disorders is 11%, with 5.6, 1.5,3.5%, of people having subclinical hypothyroidism, subclinical hyperthyroidism, and overt hypothyroidism, respectively.

In New Delhi, Ajmani et al. (2014) carried out the research. Twelve percent were hypothyroid, they said. Of these, 3% had overt hypothyroidism and 9% had subclinical hypothyroidism.[14]

In a study carried out in Indore, MP, by Gupta et al. (2019). 10.4% was the reported prevalence of hypothyroidism. Of these, 0.92% had overt hypothyroidism and 5.50% had subclinical hypothyroidism.[16]

A study was carried out in Mumbai, Maharashtra, by Nambiar et al (2015). In his investigation, they found that the prevalence of thyroid autoimmunity was 12.4% and hypothyroidism was 4.8% [15].

HYPOTHYROIDISM

Underactive thyroid glands that emit insufficient amounts of thyroid hormones are the cause of this disorder. While it affects both sexes, women are more likely than men to have hypothyroidism.

PRIMARY MATERNAL HYPOTHYROIDISM

Is a condition due to increased TSH levels during pregnancy. Subclinical and overt hypothyroidism are two more classifications for primary hypothyroidism.

Pregnant women with Thyroid stimulating hormone values between 2.5 and 10 mIU/l in the 1st trimester and 3 to 10 mIU/l in 2nd and third trimesters and free T4 levels within a normal range are said to have subclinical hypothyroidism. It is more prevalent and commonly documented as a thyroid condition during pregnancy.[8]

Pregnant women with unusually high Thyroid-stimulating hormone levels and abnormally decreased total or free T4 levels are said to have overt hyperthyroidism. It may alternatively be defined as having a TSH value, independent of free T4 level, of greater than 10 mIU/ml[8].

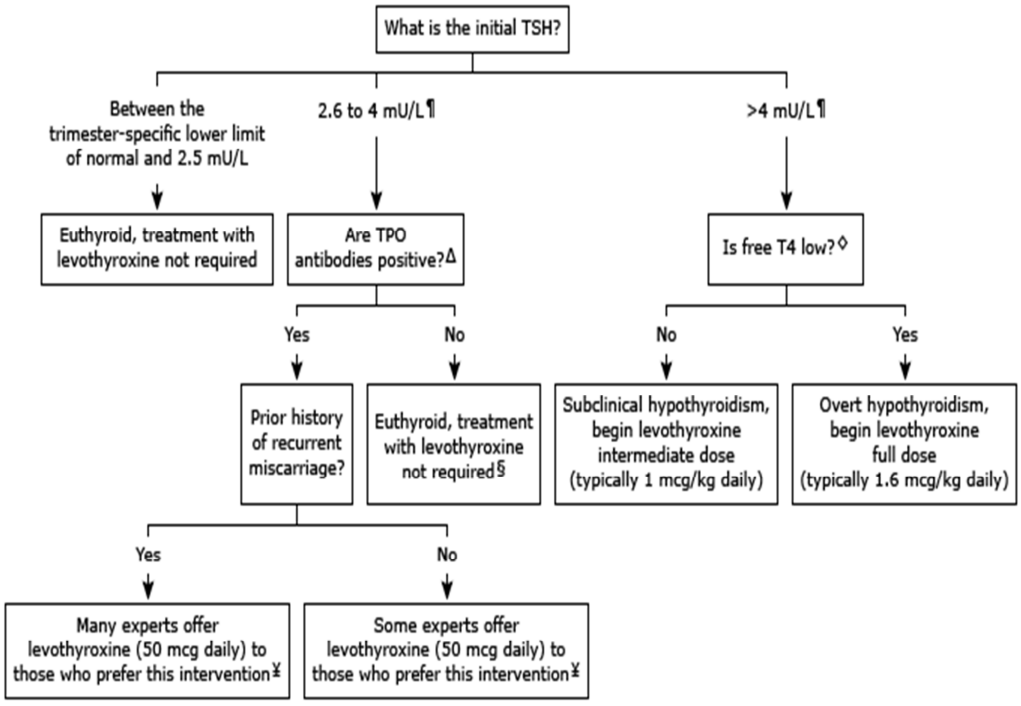
Table no -2 diagnostic criteria for hypothyroidism in pregnancy:

Trimester	**The upper limit of the TSH Range(**mIU/L)
1st Trimester	2.5
2nd Trimester	3
3rd Trimester	3

Table No-3 Causes Of Hypothyroidism In Mother

Autoimmune	Hashimoto's (chronic)
	De Quervain's thyroiditis (subacute, transient)
Iatrogenic	Surgical removal of thyroid (thyroidectomy)
	Previous Radioactive iodine treatment
	Drug-induced (e.g. lithium, amiodarone)
Congenital hypothyroidism	Thyroid gland agenesis
	Thyroid dyshormonogenesis
	Genetic mutations of thyroid d receptors
Substance deficiency	Iodine deficiency (the commonest cause)
Infiltrative disorders	sarcoidosis

Table No-4 Management algorithm according to American Thyroid Association (ATA).



EFFECTS ON PREGNANCY:

Both mother and fetus suffer several negative consequences from untreated hypothyroidism. Compared to euthyroid women, hypothyroid women in the first few weeks of pregnancy are more likely to experience problems.

When pregnant women with newly diagnosed hypothyroidism received treatment, the total complication rate was 4.8% if became euthyroid before twenty weeks, 19% if they did so after 20 weeks, and 31.5% if they never reached euthyroid levels[4].

If untreated hypothyroidism persists throughout pregnancy, the following issues may arise:

Figure-1 Maternal complication of hypothyroidism

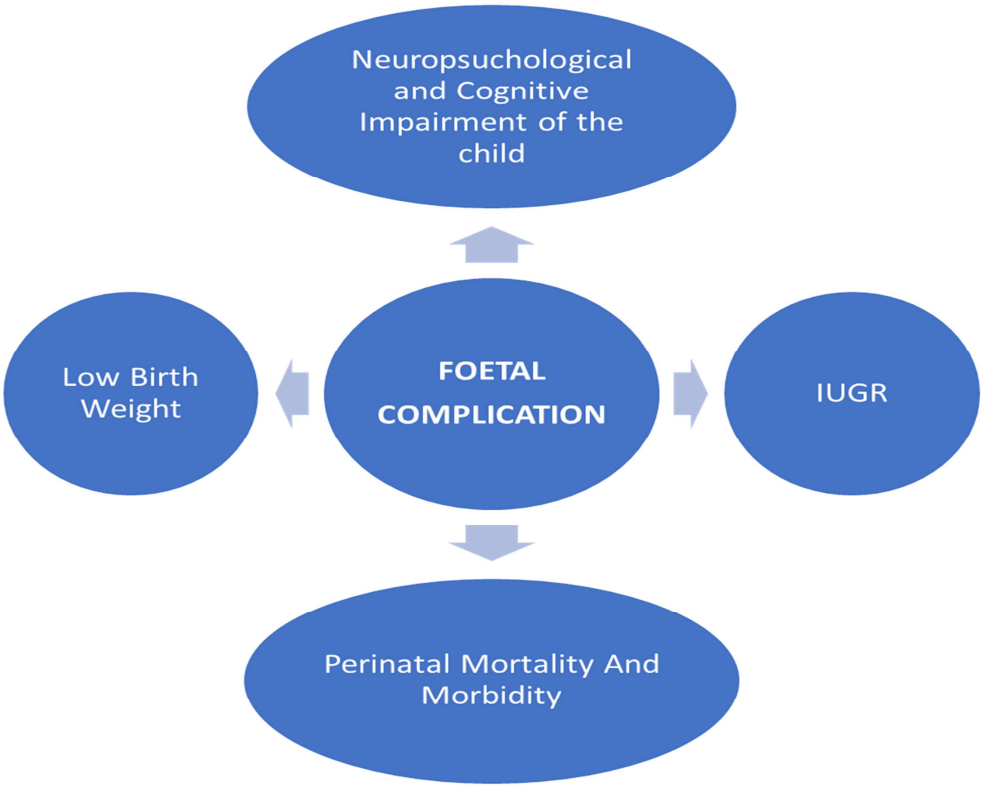


Figure-2 Fetal complications associated with maternal hypothyroidism

Compared to subclinical hypothyroid patients, overt hypothyroidism causes a higher prevalence of the aforementioned issues, even though it is also linked to anovulatory cycles, infertility, and an increase in first-trimester abortions[18]. According to certain research, compared to euthyroid women, women with subclinical hypothyroidism may have experienced more preeclampsia, premature delivery, abruptio placenta, and pregnancy loss. Certain research findings indicate a noteworthy correlation of subclinical hypothyroidism with compromised cognitive development in progeny.

THYROID HORMONE AND THE FETUS

The fetal thyroid gland's development is completed by about 12 weeks of gestation, at which point iodide buildup and thyroid hormone synthesis occur. At 12 weeks of age, the anterior pituitary also exhibits fetal TSH, while the fetal hypothalamus displays TRH. Measurable levels of T3 and T4 are found in the bloodstream starting at 16–18 weeks.

By roughly mid-gestation (20 weeks), thyroid hormone synthesis via a negative feedback mechanism becomes apparent. As the gestation progresses, TSH, total T4, and TBG levels grow steadily and gradually.

Although the levels of maternal thyroid hormones are significantly higher than those of fetal thyroid hormones, this difference changes as the pregnancy progresses. Thyroid hormone levels and TBG are elevated in the developing fetus. Comparably, fT4 reaches adult levels by 36 weeks, but fT3 grows only in the latter stages of pregnancy.

Up until 36–40 weeks of gestation, the fetal thyroid gland is still developing and is unable to adjust to exogenous iodine. Therefore, compared to term babies, babies born preterm are more vulnerable to the thyroid-suppressive effects of exogenous iodine.

T4 is the main thyroid hormone produced by the fetus, whereas T3 levels are relatively low during pregnancy. T4 levels rise in tandem with rT3 levels. Consequently, during birth, the fetus from a state of relative T3 shortage transits to T3 thyrotoxicosis

The placenta allows unrestricted passage of TRH but not TSH. The functioning of the fetal thyroid is influenced by maternally acquired TRH.

Following delivery within 30 mins,

- TSH surges, peaking at 80 mU/L at six hours, and then rapidly declines over the next 24 hours, before declining significantly over the first seven days of life.

- Additionally, the thyroid gland in mothers is activated, which raises the levels of serum T3 and T4.

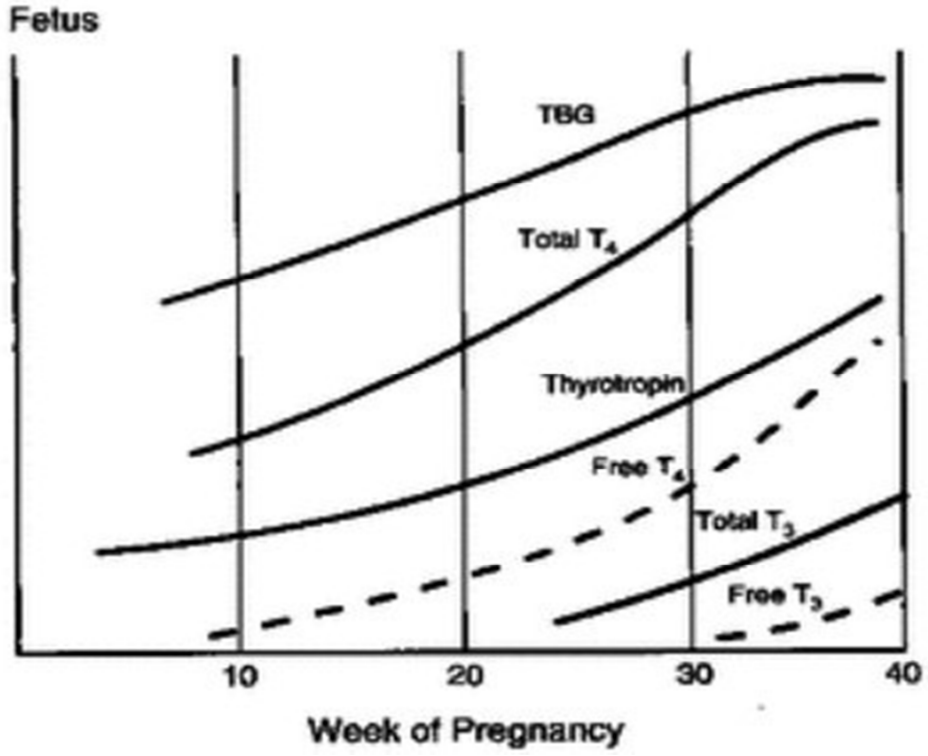


Figure -3 Relative changes in Fetal Thyroid functions during Pregnancy

Table No. 5 Classification of Newborns according to Gestational Age

Stages of prematurity and post maturity, **World Health Organization's (2016)** Neonatal classifications (based on Maturity at birth).

Definition of maturity at birth	Completed weeks of gestation
Extremely preterm	< 28
Very preterm	28 – <32
Moderate to late preterm	32 – <37
Term	37 – 41
Post-term	≥42 weeks

Low APGAR score at five minutes: The baby's physical health is evaluated at one minute using the APGAR score, which is a scale from 0 to 10. Five minutes later, the baby's response to any attempts at resuscitation is evaluated once more. At five minutes, a score of less than seven is deemed low.

Respiratory problems include infant infections, neonatal jaundice, and respiratory distress syndrome**.**

EFFECT OF HYPOTHYROIDISM DURING PREGNANCY ON NEWBORNS:

Respiratory distress, LBW, and preterm birth are all possible outcomes of untreated maternal hypothyroidism. Over time, sufficient data has been gathered concernin**g** the role of the thyroid in the healthy development of the developing fetus's brain. The action of thyroid hormones in the development of the fetal brain is demonstrated by certain nuclear receptors and thyroid hormones present at 8 weeks of

gestation in the brain, free T4 in the amniotic fluids, and evidence of a shift of maternal thyroid hormones across the placenta.

Because the fetal thyroid can't yet produce hormones on its own, the fetus is dependent on the mother for hormone production during the 1st part of pregnancy. Additionally, fetal secretion of fT4 commences about 18–20 weeks of pregnancy. The development of the fetal thyroid gland initiates at 10–12 weeks and ends after the pregnancy. The thyroid hormone which has been produced in the mother crosses the placenta and is crucial for the neurodevelopment of the fetus, affecting various aspects of its brain. During the first trimester of a healthy pregnancy, there is a direct correlation between the neurodevelopment of the newborn and the mother's plasma fT4 levels. Pregnant women who have hypothyroidism are linked to children who have reduced cognitive and motor abilities [30]. Furthermore, as the thyroid hormone controls the majority of the stages of neuronal and glial cell formation, it is well known that newborn overt hypothyroidism is linked to aberrant neurological development and, if left untreated, may result in mental retardation.

According to Saki F et al., the prevalence rates of poor Apgar score, IUGR, preterm birth, and preeclampsia were 7.5%, 13.7%, 21.2%, and 13.7%, respectively, in pregnant women with hypothyroidism. Among women with hyperthyroidism, the prevalence of preeclampsia, Intrauterine growth restriction, premature delivery, and poor APGAR scores was 0%, 22.2%, 11.1%, and 11.1%, respectively.

A study by Kalpana Mahadik et al. conducted a survey in Ujjain, Madhya Pradesh on the investigation of pregnancy's thyroid function and its effects on the fetus and mother. They found that anemia was present in 25.9% of women with both overt & subclinical hypothyroidism and that this was significantly related to

hypothyroidism (p = 0.008). In regards to fetal outputs, hypothyroidism was significantly related to low APGAR score (21%, p = 0.042), NICU hospitalization (42%), and Low birth weight (31%). Women with hypothyroidism had a higher chance of anemia, LBW, NICU hospitalizations, and low APGAR scores in comparison to euthyroid women [46]

The risk of low Intelligence quotient scores, neuropsychological developmental indices, and learning capabilities was significantly higher among children born to mothers with hypothyroidism, as demonstrated by several groundbreaking studies (Man et al., [4]); more recent studies (Rovet et al., [6]) also supported this finding. The average Intelligence quotient of children born to mothers without hypothyroidism and mothers on thyroxine supplements was about 7 points higher than that of offspring born to hypothyroid mothers who were not treated. This danger extends to offspring born to both untreated and inadequately supplemented mothers. According to Rovet et al.[6], these kids also showed deficits in their overall intellect, but their language, fine motor skills, visual-spatial abilities, and preschool aptitude were unchanged. The necessity of properly following up with women once they begin therapy is highlighted by this study.

Development of the pituitary-thyroid axis and the uterus's physiological cardiovascular balance depends on an appropriate fetal supply of free T4. Pickard et al. proposed that aberrant fetal development and fetal-placental glucose metabolism might be indicative of the effects of hypothyroidism during pregnancy. In specifics, it is observed that the fetal weight and liver and brain volume are reduced in cases of more severe hypothyroidism. Reduced hepatic glycogen reserves in fetuses of hypothyroid mothers cause abnormal fetal-placental glucose metabolism 32. The IQ

of children born to women deficient in iodine was lower, with a worldwide IQ loss of more than ten points, and many of them also had ADHD [8].

High levels of thyroid-stimulating hormone during the time of pregnancy were linked with a higher chance of low birth weight (LBW, defined as birth weight < 2500 grams) (RR 2.59, 95%), and if thyroid-positive autoantibodies are present, the risk increased threefold (RR 3.1, 95% CI 1.1-2.8) [20]. Compared to neonates of euthyroid mothers, LBW is more common among women with subclinical hypothyroidism (P<0.001).

Subclinical hypothyroidism, however, was not linked to preterm birth or preeclampsia, according to Plowden et al.'s prospective cohort analysis. Thyroid antibodies didn't appear to be significant with either preterm birth or preeclampsia.

Alternatively, Su et al. determined, that subclinical hypothyroidism was linked to a higher chance of fetal distress and preterm births (Odds ratio 3.3, confidence interval [1.22–9.05], and Odds ratio 3.6, CI [1.44–9.25], respectively). A greater incidence of congenital circulatory system abnormalities, LBW, and fetal death was linked to hypothyroidism (OR 13.45 [2.54 –71.20], 9.05 [1.01–80.90], and 10.44 [1.15–94.62], respectively) [12].

Newborn thyroid function may be hampered by maternal thyroid insufficiency. To identify hypothyroidism in newborns Around two to three days of life, a thyroid-stimulating hormone test is carried out. Thyroid peroxidase antibodies-induced autoimmune thyroiditis in 129 women resulted in abnormal thyroid function, as documented by Rovelli et al. (2010). On the third or fourth day of life, they discovered that 23.2% of babies had a pathologic thyroid stimulating hormone

(median value: 11.86 mU/L, range: 8.54 – 35.37 mU/L). Nonetheless, just 2.2% of patients needed replacement medication due to ongoing hypothyroxinemia, indicating that thyroid malfunction is often a temporary condition [33, 34].

According to research by Ozdemir et al. (2013), infants delivered to women with thyroid problems had a higher chance of recall for repeating the Thyroid-stimulating hormone screening (p=0.002) and were more likely to experience temporary thyroid malfunction during the first eight weeks after birth [35].

According to Dussault et al, compared to neonates with healthy mothers, the prevalence of newborn transitory hypothyroidism is greater among babies in mothers who had autoimmune thyroid dysfunction (27% vs. 15%; p=0.04). Because synthetic anti-thyroid medications or maternal thyroid receptor antibodies can be transferred through the placenta, children of Graves' disease patients may be more susceptible to hypothyroidism and hyperthyroidism, respectively[36].

Retrospective analysis of the progeny of 416 women with Graves' illness & positive TRAb test during the time of pregnancy was conducted by Banigè et al. While the upper limit of neonatal TRAbs indicative of newborn thyroid illness is 6.8 UI/L, the upper limit of maternal TRAbs predictive of newborn hypothyroidism is about 5.9 UI/L. Although fetal thyroid gland ultrasound has certain limitations—it can only be done beyond 22 days of post-conceptional age, & there is currently no available recommended values of maternal TRAbs to get fetal thyroid ultrasound—it may help predict the chance of neonatal thyroid disease [37].

According to Srinivasan et al, the need for thyroxine dose rises during pregnancy. Therefore, it is important to closely evaluate thyroid function and alter the thyroxine dose as needed to maintain a normal blood TSH level during the gestational period. Hypothyroidism in women in 1st trimester and during the 3rd trimester in the combined endocrine-obstetric clinic had a higher risk of LBW and C-section.

In research done by Fourough Saki, 13.7% of pregnant women had hypothyroidism (2.4% in clinical cases and 11.3% in subclinical cases). Hypothyroidism raised the probability of Intrauterine growth restriction by 2.2 times and low APGAR scores by 1.95 times. It was linked to intrauterine growth restriction ($P = 0.017$) and low APGAR scores at the 1st minute ($P = 0.04$). Clinical hypothyroidism was linked to preterm delivery ($P = 0.045$) but did not significantly correlate with preeclampsia ($P > 0.05$). Subclinical hypothyroidism was significantly correlated with poor first-minute Apgar scores ($P = 0.022$) and intrauterine growth restriction ($P = 0.028$). Subclinical hypothyroidism raises the likelihood of intrauterine growth restriction by up to 2.18 times and poor Apgar scores by 2.15 times. The mother's subclinical hypothyroidism raises the risk of IUGR by a factor of 2.18. A 4.57-fold increase in the risk of IUGR is associated with overt hyperthyroidism.

Goel et al. had shown higher rates of fetal distress in women with subclinical /clinical hypothyroidism. Hypothyroidism exerts no reversible influence on the placenta and fetus during pregnancy and declines the ability of the fetus to tolerate stress leading to, neonates with low APGAR scores at birth.

A lower birth weight was linked to either a lower T3 concentration or a greater thyroid-stimulating hormone-free T4 concentration in the first or third trimester, according to research done at International Peace Maternity and Child Health Hospital between January 2013 and December 2016. A 0.34-SD greater birth weight is linked to lower percentiles of maternal FreeT4 (FT4, 2.5th percentile) in both trimesters. Those in the first trimester had higher impact estimates (0.23 SD). Based on the fetal sex, there were differences in the relationship between the mother's thyroid-stimulating hormone and FreeT4 and birth weight.

According to a study conducted in Pune in 2022 by Gaikhwad et al., mothers who were diagnosed with a thyroid disorder in the first trimester had a higher likelihood of pregnancy-related complications (45%) than those who were detected in the second or third trimesters (only 3%). The study focused on the trimester-wise effect of hypothyroidism in pregnancy and its maternal-fetal outcome. Thirty percent of kids born in the first trimester had low birth weight, four percent in the second trimester, and none in the third trimester.

NICU admission was required by 35% of babies born to hypothyroid mothers since the first trimester, while in the second trimester, it was reported in 24%, while in the third trimester, it was reported only in 6%. In this study, 33% of delivery was Vaginal delivery, while 55% were reported as LSCS with 12% reported abortion. While the correlation of type of delivery & association of hypothyroid disease, we found a higher number of C-Sections and abortions were reported in clinically diagnosed cases rather than sub-clinical cases. While correlating the type of delivery & association of hypothyroid disease, we found a higher number of preterm deliveries were reported in clinically diagnosed cases rather than sub-clinical cases[54].

A study conducted by Zareen Kiran et al at Agha Khan University, Karachi has reported an 11–13% prevalence of neonatal jaundice in the general population. Neonatal jaundice was the most frequent medical condition (37.6%), measured on days 1–3 of life, Single session phototherapy was required in almost 15% of neonates[56].

Among the significant congenital anomalies, cardiovascular defects (CVD) with the highest prevalence of Patent Ductus Arteriosus (PDA) (1.2%) followed by Ventricular Septal Defect (VSD) (1.1%) were noted.

Marginally significant association of premature birth (OR 1.76, CI 1.00–3.09, $p \leq 0.05$) and sepsis (OR 2.29, CI 1.01–5.22, $p \leq 0.05$) with the timing of diagnosis of maternal hypothyroidism, with a higher chance in those diagnosed before pregnancy was observed.

OVERT VS SUBCLINICAL HYPOTHYROIDISM:

In a study conducted by Sahu et al. Overt hypothyroid were prone to have pregnancy-induced hypertension ($P = 0.04$), IUGR ($P = 0.01$), and intrauterine demise ($P = 0.0004$) as compared to control. Cesarean section rate in the view of fetal distress was significantly higher among pregnant subclinical hypothyroid women ($P = 0.04$). Neonatal complications and gestational diabetes were significantly more among the overt hyperthyroidism group ($P = 0.03$ and $P = 0.04$, respectively).[57]

A cohort study conducted in Bangladesh for 6 months in 2020 concluded that fetal distress is found to be more common in patients with subclinical hypothyroidism than clinical hypothyroidism. There is also a significant difference found in clinical and sub-clinical hypothyroidism considering IUD and prematurity. Furthermore, fetal

distress, IUD, Low birth weight, and APGAR score of less than 6 were significantly higher in patients with clinical hypothyroidism[58].

Neonates Small for Gestational Age (SGA) :

Newborn is defined as "Small for Gestational Age" "*if his/her weight and/or length are below the average of the general population of at least less than 2 Standard Deviations (SD) (Birth weight lower than the 10th centile for gestational age week)"*[43]. Fetal development may be impacted by genetics, maternal diet, placental function, and intrauterine hormones [44].

According to physiological principles, exposure to temperatures lower than intrauterine temperature during infancy increases TSH levels, which in turn stimulate the creation of thyroid hormones. FreeT4 achieves its maximum levels in the first week of life. Due to elevated postnatal expression of deiodinase D1 and elevated levels of TSH, freeT3 levels rise during the initial 28 days of life. Serum Thyroid stimulating hormone levels rise significantly (60–70 μU/L) about 30 minutes after delivery.

Restrictions on fetal growth have been linked in several studies to the development of metabolic diseases (obesity, elevated chance of hypertension, and type 2 diabetes mellitus) in later life [1]. A small number of research compared SGA neonates to appropriate for gestational age (AGA) babies to study the thyroid function of newborns.

Rashmi et al. discovered that while levels of thyroid stimulating hormone in cord blood were not related to gender, intrauterine growth restriction, or gestational age, they appeared to be negatively impacted by birth weight and gestational age [46].

NietoDiaz et al. report that at delivery, small for-gestational-age neonates had significantly lower amounts of TSH and IGF1 in their cord blood compared to appropriate for gestational age babies[48]. When thyroid-releasing hormone stimulation is given to SGA and AGA newborns, the hypothalamic-pituitary-thyroid axis response seems to be similar [49].

To compare infants born SGA with children born AGA, Cianfarani et al. examined insulin sensitivity using an average age of 8.6±3.5. When compared to AGA, SGA did not vary in insulin sensitivity, but their blood glucose levels were considerably lower ($p<0.005$).51.

In the first week of life, Bagnoliet al. observed the connection between thyroid function and intrauterine growth restriction. Small for gestational age newborns (both preterm and term) had decreased T4 serum levels, which may have been caused by decreased cortisol concentrations, higher amounts of adrenocorticotrophic hormone, or decreased phenylalanine and tyrosine availability. Conversely, only full-term small-for-gestational-age babies had considerably greater thyroid-stimulating hormone concentrations.

Newborn length, head circumference, and thyroid function:

The development of several organ systems, including the kidney, lung, and skeleton, depends upon thyroid hormone. Thyroid hormone is vital for the development of the fetal brain[56]. Additional studies have shown that thyroid malfunction in the mother during pregnancy may affect the cognition and behavioral development of the fetus[57]. Recent data has shown, that cognitive delay in offspring is predicted by low maternal FT4 concentration in the initial stages of pregnancy.

It is shown that children with congenital hypothyroidism have greater head circumference. It has been observed that babies born to hypothyroid moms typically have smaller heads and weigh less. However, it is unclear how minor nonclinical fluctuations in the mother's thyroid during pregnancy affect the development of the fetal head and brain. Furthermore, birth outcomes that don't give information on development during pregnancy, such as birth weight, and head circumference upon delivery, are rough sum measurements of intrauterine growth. Different fetal development trajectories might result in newborns reaching the same birth weight.

A higher fetal and baby head size was linked to maternal hypothyroxinemia identified in the 1st trimester of pregnancy. The impact was dose-response in the initial stages of pregnancy; more severe faulty head development was linked to severe hypothyroxinemia than to moderate hypothyroxinemia. The adverse outcomes of low FreeT4 during pregnancy on fetal, postnatal head development can be explained by a variety of factors.

According to Blazer et al., low FreeT4 levels that impact placentation in the initial part of pregnancy may decrease fetal development. The links between women’s thyroid dysfunction and mal placentation-related pregnancy complications—such as intrauterine growth retardation, stillbirth, and preeclampsia—provide evidence in favor of this. It has been proposed that minute variations in the mother's thyroid function can affect the uteroplacental tissues. There is evidence linking placental insufficiency to smaller heads in children, with variations observed beyond puberty.

Another reason for the impact of maternal hypothyroxinemia during pregnancy might be the immediate influence of thyroid hormone on the growing brain. Research on animals has explained this process. FT4 impairments in rodents

modify the neocortex and hippocampal cytoarchitectonic organization in the offspring as well as the proper migration of cortical neurons. The human fetal brain would be most susceptible to maternal hypothyroxinemia in the later part of 1st trimester or midway through gestation if we extrapolate the key time from animal research. Neurogenesis, myelination, and apoptosis occur at that time, which may account for the size variations seen in the 1st trimester of pregnancy. Synaptogenesis begins at birth, and during the 1st year of life, the number of synapses increases dramatically. Beginning in the 3rd trimester of pregnancy, synaptogenesis picks up speed and grows quickly over the first two years of life.

According to Nina H. et al., we examined the prenatal and postnatal head sizes of 4894 women's infants at five different periods and evaluated the thyroid condition of these women in an early pregnancy population-based birth cohort. Larger fetal and newborn head sizes were linked to maternal hypothyroxinemia. Demonstrated that, in the population, slight changes in mother's thyroid functions in pregnancy may have an impact on the young child's developing head.

According to Verma et al., among maternal variables, neonatal TSH (nTSH) showed a negative link with women’s hemoglobin ($p = 0.007$) and a direct correlation with parity ($p = 0.066$). The neonatal parameters of birth weight (p-value < 0.001) and newborn length (p value $= 0.027$) showed a negative connection with TSH. The findings of this study indicate that birth weight had the greatest impact on TSH of all the maternal and neonatal variables. Nevertheless, additional variables could be connected to the result. Since these risk factors don't usually occur together, it might be challenging to identify the exposure that puts kids at risk. It is important to take these things into account when evaluating the screening program's results.

Effect of Prematurity on Thyroid Functions:

A fetus's intrauterine homeostasis greatly depends on the thyroid hormone, which works in tandem with the adrenal hormone during the perinatal stage to advocate the body's physiological adaptations to life outside the womb [57]. The blood level of thyroxine and triiodothyronine becomes quantifiable around 10–12 weeks of gestation and steadily rises in pregnancy [58]. The thyroid gland seems complete in the fetus at that point. Following the first trimester of pregnancy, foetal hypothalamic-pituitary-thyroid axis starts to function and continues to develop until the later part of gestation. Thyroid dysfunction is therefore prevalent illness in premature newborns and is associated with other variables.

Prematurity can result from several physiological abnormalities, such as hypothalamic-pituitary-thyroid axis immaturity, thyroid metabolic pathway immaturity, and impaired thyroid iodine synthesis and concentration. Additionally, preterm infants require more thyroid hormones for thermogenesis and the treatment of prematurity-related illnesses.

Williams et al. showed how the inflammatory response might affect thyroid function in preterm illnesses such as intraventricular hemorrhage (IVH), sepsis, and respiratory distress syndrome (RDS). Temporary thyroid dysfunctioning can occur in neonates admitted in NICU, can be due to medications like steroids and dopamine, which are frequently used to help premature infants recover.

Lastly, iodine excess and deficiency can potentially affect premature thyroid function[60]. The premature infant's iodine need is around 30–40 mcg/kg/day; the thyroid gland of the newborn is affected by deficiency as well as excess of iodine.

The usage of iodinated skin disinfectants and contrast media may result in excess. The impact of iodine exposure on preterm neonates was unclear because of the unknown amounts of iodine in the urine and exposure source, as well as the lack of any information regarding renal function.

According to Ogilvy-Stuart AL et al., preterm have a normal response of Thyroid Hormone-Releasing Hormone (THR-releasing hormone), which suggests that the hypothalamus is the location of immaturity61. Extreme preterm fetuses have lower blood levels of T4 than fetuses with a gestational age of 62. Most of the time, there is a brief malfunction that goes away on its own as the thyroid gland and the systems that control it mature. In rare cases, the dysfunction is chronic and calls for medication.

The so-called "delayed TSH elevation" (TSH), is characterized by an increase in Thyroid stimulating hormone at the second test following the initial normal screening, which is another problem that can arise in preterm newborns. This syndrome is more common in LBW babies, preterm infants, and neonates hospitalized in the neonatal intensive care unit. It can happen at any time, commonly within the first two to six weeks of life. This illness has a diverse etiology; iodine excess or shortage might be contributing factors.

Maternal Hypothyroidism During Pregnancy on Preterm Birth:

5% to 15% of births globally are complicated by preterm birth. For children under five, it is the most significant and well-coordinated cause of morbidity and death. It significantly increases the chance of metabolic, cardiac, vascular, mental health, and renal illness in the later part of life [2,3].

Preterm delivery is known to be associated with overt hypothyroidism and hyperthyroidism, which affect around 0.5% and 0.05% of pregnancies, respectively [10,11].

Compared to euthyroid mothers, women with subclinical hypothyroidism have a greater chance of premature delivery, albeit not extremely preterm birth.

Compared to euthyroid women, women who have isolated hypothyroxinaemia were highly likely to give birth prematurely and to do so extremely early. There is no statistical significance in the rate of preterm birth between mothers with overt hyperthyroidism & those with not having the condition.

During the early half of pregnancy, women with isolated hypothyroxinaemia are treated with levothyroxine in two major randomized clinical trials. However, there were no significant differences in risk for premature delivery with therapy. In one of the studies including pregnant mothers with isolated hypothyroxinaemia or subclinical hypothyroidism, 5.59% of the levothyroxine group and 7.91% of the control group experienced premature delivery. 31 In another study, which involved pregnant mothers with isolated hypothyroxinaemia, 11% of the L-thyroxine group and 8% of the placebo group experienced preterm delivery, while 4% and 3% of the levothyroxine group, respectively, delivered babies before 34 weeks of gestation. [32]

Another meta-analysis found a crucial link between clinical hypothyroidism and preterm delivery. It was carried out by Sheehan et al. in 6 studies and Hou et al. in six more studies. Compared to moms who were euthyroid, mothers with clinical hypothyroidism, subclinical hypothyroidism, or hypothyroxinaemia during pregnancy have a greater incidence of preterm delivery. These relationships were significant.

There is a higher chance of premature birth among mothers with hypothyroidism who become pregnant. The low birth weight is correlated with the same outcomes. In the case of small for gestational age, there hasn't been any significant increase. Pregnant women who had hypothyroidism gave birth to children who were heavier at delivery. Maternal hypothyroidism's effects indicate a tendency towards a lower risk of big for gestational age. According to our review, L-T4 supplementation should be advised since moms who have hypothyroidism during gestation have a higher chance of giving birth to infants who are larger at birth or have low growth hormone (LGA).

Effects Of Maternal Hypothyroidism During Gestation on Childhood:

a) Metabolic and cardiovascular effects:

Thyroid hormones produced by the mother appear to have an impact on the offspring's appraisal of their heart and metabolism throughout pregnancy. On the other hand, little very few are known regarding the long-run consequences of exposing kids to aberrant thyroid function in the mother during fetal life [38].

The significance of women's thyroid hormone for the development of metabolic illnesses during adulthood was investigated by Vujovic et al. The thyroid condition of the mother during pregnancy may have an impact on the adult liver phenotype.

According to Godoy et al., there hasn’t been any relation noted allying subclinical hypo/hyperthyroidism of the mother & the 6-year-old offspring's blood pressure or amount of body fat. When the kids were six years old, it was shown that lower levels of thyroid stimulating hormone were linked to lower body mass index

and lower diastolic blood pressure. 5961 women had their thyroid function examined, although the number of moms who had thyroid illness was lower and The results have been impacted by the very short-term follow-up, particularly when compared to Rytter and coauthors' research [41].

According to Heikkinen et al., mothers who tested positive for TPO antibodies are more likely to have children who were overweight or had a larger waist circumference, all of which are indicators of a higher risk of cardio-metabolic disease. There is no evidence to support a link allying maternal thyroid dysfunction or thyroglobulin-antibody positive & the risk factor for cardiometabolic disease among offspring [42].

b) Endocrine effects:

Cuestas et al. looked into whether neural development, growth, and the start of persistent hyperthyrotropinemia in infancy are all impacted by transient neonatal hyperthyrotropinemia (TNH).They discovered that children with TNH were more likely (RR 5.7) to experience PH later in life. There were no impacts on linear growth.[2]

Päkkilä et al[6], described that child of hyperthyroid women had hyperthyroid offsprings (OR 4.1), whereas children of hypothyroid women more frequently had hypothyroid offsprings (OR 3.4). Additionally, moms who tested positive for TPoAb's are more likely to have children who had positivity for thyroid autoimmunity, primarily males ($p = 0.021$).

Neuropsychiatric effect:

Haddow et al looked at the intellectual growth in children aged 8 to 10 who were born to moms who had thyroid illness (varying degrees of hypofunction). The research population's IQ was discovered to be four points lower than the control group. In areas of reading, motor skills, attention, language, IQ, and visual-spatial abilities, cases fared worse. Mothers with moderate and asymptomatic hypothyroidism were likewise linked to worse intellectual and academic performance. An autoimmune thyroid disorder in mothers was the most frequent cause [30].

Pop et al examined the brain development of twenty-two infants delivered to women with early pregnancy T4 concentrations between low and normal (<10.4 pmol/L). They claimed that even modest and asymptomatic hypofunction of the mother's thyroid during the initial stages of pregnancy may be linked with anomalies in the maturation of the offspring's nervous system. Twenty percent of premature newborns have temporary hypothyroidism. [29]

Effect of Levothyroxine Treatment on Foetal Growth:

Given that the fetus is based on the transplacental shift of women's thyroid hormones throughout the 1st trimester, it is well-recognized that maternal thyroid hormone is needed for preserving proper fetal growth and maturation[1,2]. Pregnancy-related overt thyroid dysfunction is linked to problems for both the mother and the fetus and can result in neurodevelopmental issues in the offspring later in life. 3.

Using ultrasound measures, some research has been done to estimate the association between the women's thyroid function & fetal development in utero[4,6]. While birth weight has been linked to both newborn survival [7] and children's long-

term outcomes [8], it is not a good indicator of the quality of fetal development[9]. Birth weight is a measurement made immediately after delivery and does not account for the dynamic development of the fetus over the whole pregnancy.

According to Van Mil et al.[4], bigger fetal head size was linked to maternal hypothyroxinaemia during the early stages of pregnancy (median 13.4 weeks). Johns et al. 5 found an association between repeated levels of thyroid hormone and ultrasound measurements of fetal growth. They also found that FreeT4 was negatively correlated with repeated measurements of head, abdominal circumference, and roughly calculated fetal weight. However, they found no correlation between Thyroid Stimulating Hormones and fetal growth.

American Thyroid Association guideline being published, the 2011 ATA guideline was the basis for treating mild subclinical hypothyroidism with TPOAb. Although the most recent clinical guideline did not recommend it, some clinicians treated mild subclinical hypothyroidism in pregnant mothers with TPOAb with levothyroxine. Levothyroxine treatment is taken into consideration for mild subclinical hypothyroid pregnant mothers who tested positive for TPOAb, according to a 2017 American Thyroid Association guideline. However, levothyroxine treatment is not advised for mild subclinical hypothyroid pregnant women who do not test positive for thyroid peroxidase antibodies [11].

Furthermore, Maraka et al. [16] found that, while they did not provide information regarding the status of thyroid peroxidase antibodies, levothyroxine medication may raise the risk of unfavourable pregnancy outcomes (preterm birth, prenatal hypertension, and pre-eclampsia) in women with moderate SCH. Zhang et al. [17] found that LT4-treated moderate subclinical hypothyroid women with TPOAb

(thyroid peroxidase antibodies) had higher risks of gestational diabetes mellitus (GDM) than untreated women and controls. On the other hand, it is unclear if LT4 medication affects fetal development in pregnant women with moderate SCH and TPOAb (thyroid peroxidase antibodies).

According to Yuelong Ji et al., pregnant women with euthyroid antibodies and untreated moderate subclinical hypothyroid women withTPOAb didn't vary in regards of fetal growth indicators or birth weight. On the other hand, compared to pregnant euthyroid women, the head circumference Z-score of levothyroxine-treated moderate subclinical hypothyroid women with TPOAb (thyroid peroxidase antibodies) − was lower.

METHODOLOGY

Study Design: Cross-sectional study

Study Period: One year (April 2023- March 2024)

Ethical considerations:

- Prior approval from the Institutional Ethics Committee have been obtained.
- All the participants in this study are Voluntarily involved
- Informed consent was taken from every participant's guardian.
- Participant confidentiality will be maintained.
- Participants were not subjected to any potential harm.

Study Subjects: Babies born to hypothyroid mothers

Inclusion Criteria:

- All Babies born to hypothyroid mothers (subclinical and overt)
- Singleton pregnancies
- Willing to participate in the study

Exclusion criteria:

- Mothers with Known chronic disorders like diabetes and hypertension, liver disorders, renal disorders, etc.,
- Multifetal gestation
- Infants born with congenital anomalies

Sample Size:

The formula used for sample size calculation is

$$n = \frac{Z_{\frac{\alpha}{2}}^{2} * P(1-P)}{E^2}$$

n is the sample size required,

p is the proportion or prevalence,

E is the error;

Z is the value corresponding to the level of confidence required

By assuming all singleton pregnancies and a 5% dropout rate (stillbirths) i.e; d=0.05, the final sample size of 273 hypothyroidism cases will be included in the study

Sampling Technique: Simple Random Sampling

Study Tools:

- Digital Weighing Scale
- Infantometer
- Firm Plastic Tape
- Fenton's chart
- Equipment necessary to measure serum TSH and Free T4 levels

Procedure of Data Collection:

The steps used for data collection are as follows:

1. After obtaining the approval from ethical committee and written informed consent, subjects are recruited according to the inclusion and exclusion criteria.

2. A detailed history is taken Birth weight was measured by digital scale, length by Infantometer, and head circumference by firm plastic tape was recorded within 48 hours of birth and was plotted on Fenton's chart according to gender and gestational age. The child was followed till the time of discharge to look for neonatal outcomes like neonatal jaundice, sepsis, respiratory complications

Study Variables:

Height,Weight, Head circumference, and Neonatal complications of the baby. Serum TSH levels and free T4 levels of pregnant mothers will be measured.

Statistical Analysis:

Data collection will be done from patients and was entered into EXCEL Microsoft. Data analysis will be done using SPSS 23.0. Continuous variables are represented by mean standard deviation. Categorical variables are represented by frequency tables. The normality assumption is checked using the Shapiro-Wilk test. The homogeneity of variance assumption was checked using the Levene test. Comparison of normal continuous outcome data over categorical explanatory variables will be done using Independent T-test/welch t-test/ ANOVA/ Welch ANOVA. Comparison of non-normal continuous outcome data over categorical explanatory variables will be done using the Mann-Whitney U-test/ Kruskal Wallis test. Categorical data was compared using the chi-square test/ chi-square test with simulation. A P-value; of 0.05 is considered statistically significant.

RESULTS

Table 6: Maternal Age Classification

Age categories	Frequency	Percentage
<20 years	11	4.0%
20- 30 years	217	79.5%
>30 years	45	16.5%
Total	273	100

In our study, the majority 217 (79.5%) belong to the 20-30 years age group followed by 45 (16.5%) in the age group of > 30 years. And 11(4%) in the age group of <20years

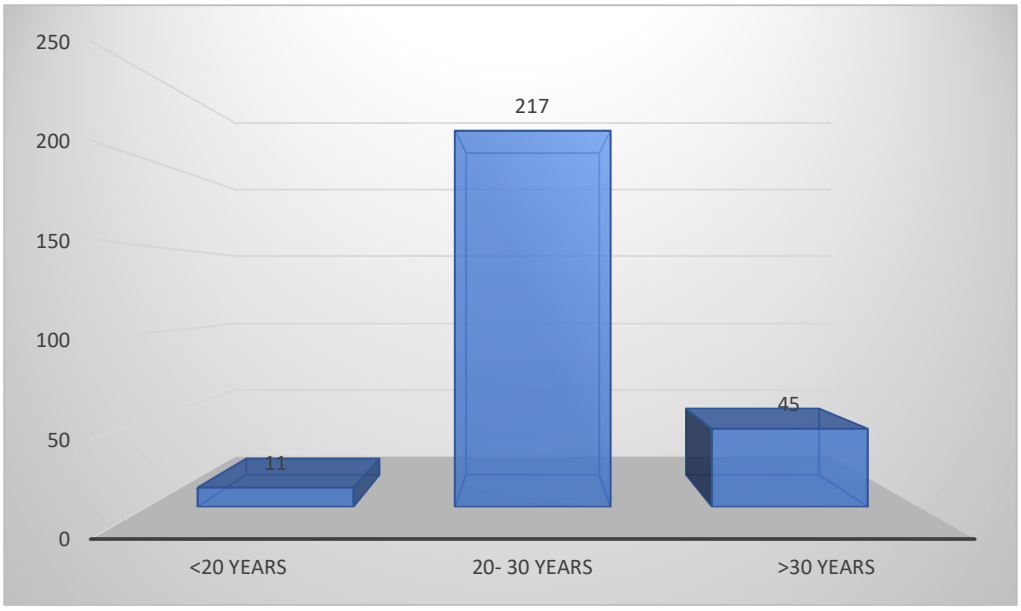


Figure No-4 Bar diagram showing the Maternal age distribution

Table 7: Maternal Literacy Status

Literate	246(90%)
Illiterate	27(9.8%)

In our study 90% of mothers were literate and 9.8% had no formal education

Table 8: Geographic distribution of mothers

Rural area	105(38%)
Urban area	168(61%)

In our study 38% Women stay in rural areas and 61% in urban areas

Table 9: Parity

1	97(35%)
2	106(38%)
3	56(20%)
4	14(5%)

Table 10: Obstetric history of mothers

Gestational history	Frequency	Percentage
No previous abortions	241	88.3%
History of Abortions	32	11.7%
Total	273	100

In our study, 32 (11.7%) had a previous history of abortion.

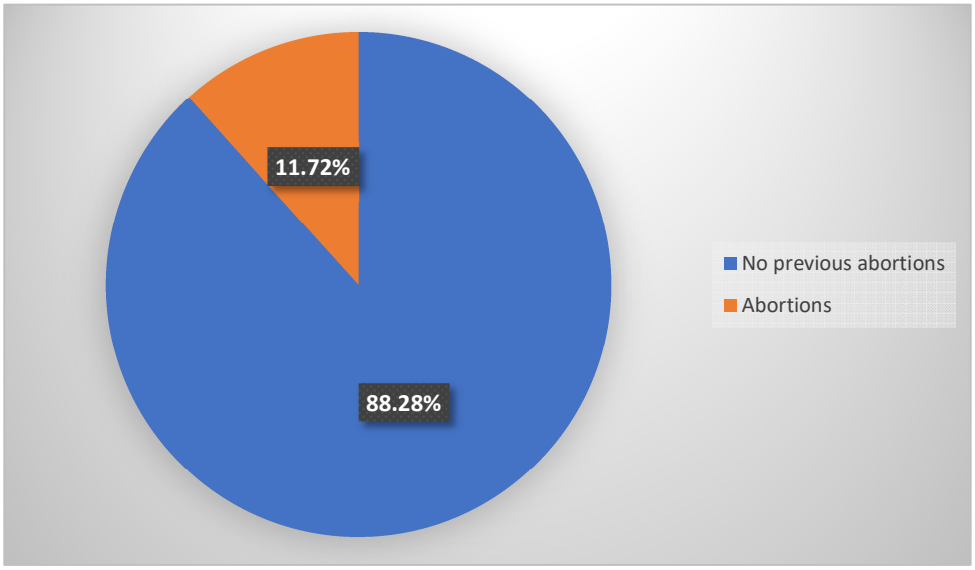


Figure No 5: Pie diagram representing the Obstetric history of Mother

Table 11: Distribution of mothers according to duration of hypothyroidism

Hypothyroidism Duration		Frequency	Percentage
Before pregnancy (n=59)	1-5 Years	46	16.8%
	>5 Years	13	4.8%
During pregnancy (n=214)	1st trimester	89	32.6%
	2nd trimester	23	8.4%
	3rd trimester	102	37.4%
Total		273	100%

In our study, hypothyroidism was identified by screening during current pregnancy in 214 mothers; and in 59 mothers it was identified before pregnancy. 89 patients (32.6%) had hypothyroid identified in the 1st trimester,23 mothers (8.4%) during the 2nd trimester, and 102 mothers (25%) during the 3rd trimester.

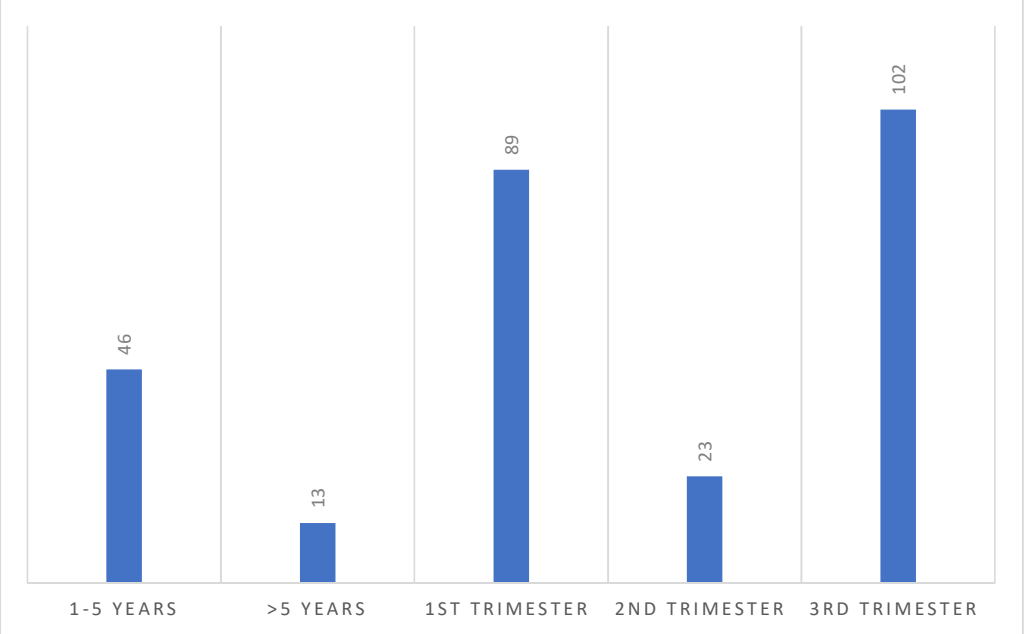


Figure no 6: Bar diagram representing the duration of maternal hypothyroidism

Table 12: Treatment status of mothers

Treatment Dosage	Frequency	Percentage
12.5	15	5.5%
25.0	113	41.8%
37.5	6	2.2%
50.0	91	33.3%
62.5	1	0.4%
75.0	27	9.9%
87.5	1	0.4%
100.0	11	4.0%
112.5	2	0.7%
125.0	3	1.1%
150.0	2	0.7%
Total	273	100%

In our study, the majority of the pregnant women were taking 25mcg per day dosage 114 (41.8%). The minimum treatment was 12.5mcg and the maximum was 150mcg. The mean dosage of treatment was 43.98 ± 25.29.

Table 13: Mothers with Treatment adjustment

			Thyroxine dosage average (mcg)
1st trimester	Dose revision done	19	50
	Not done	70	37.5
2nd trimester	Dose revision done	4	71.875
	Not done	19	58.85
3rd trimester	Dose revision done	6	64.2
	Not done	96	72.125

Table 14: Classification according to type of hypothyroidism

Hypothyroidism classification	Frequency	Percentage
Overt	4	1.4%
Subclinical	269	98.5%
Total	273	100%

In our study, the majority of the neonates were born to subclinical hypothyroidism mothers 269 (98.5%) and 4 (1.4%) were overt hypothyroidism mothers. The mean Maternal TSH was 3.04 ± 1.82. Minimum TSH was 0.214 and maximum TSH was 14.8.

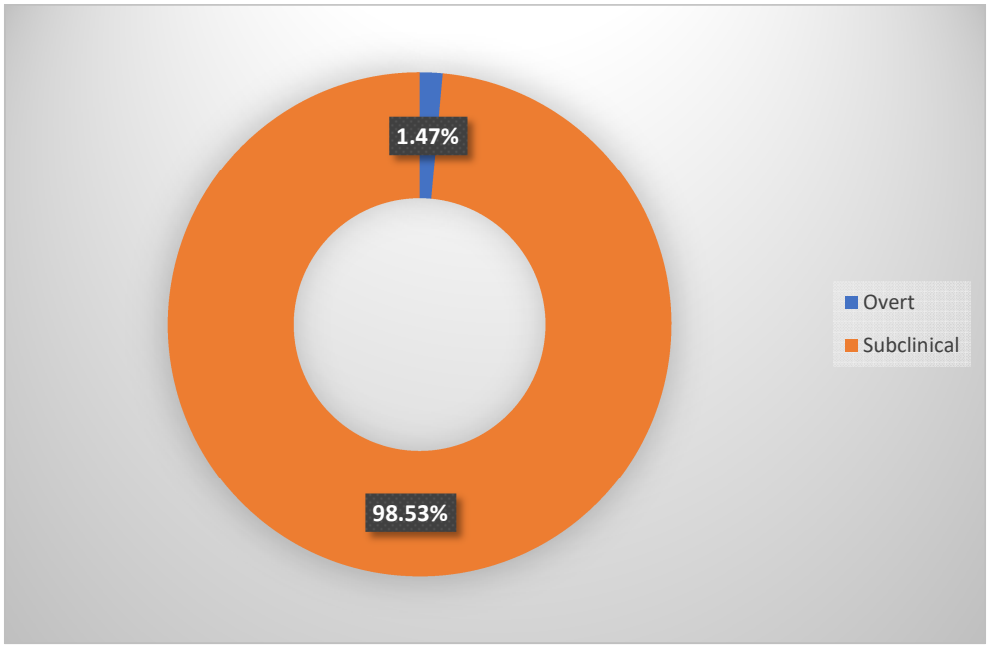


Figure 7: Pie diagram representing the distribution of mothers according to the type of hypothyroidism

Table 15: Mode of Delivery

Mode of Delivery			Frequency	Percentage
Forceps Assisted Vaginal			2	0.7%
Lower segment cesarean section (LSCS)	Elective		181	66.3%
	Emergency	Maternal indication	15	5.5%
		Foetal indication	9	3.3%
Normal Vaginal Delivery (NVD)			62	22.7%
Vacuum Assisted Vaginal Delivery			4	1.5%
Total			273	100.0%

In our study, 205 (75.1%) were born out of LSCS followed by 62 (22.7%) by NVD, 4 (1.5%) by vacuum-assisted vaginal delivery and 2 were delivered by Forceps-assisted delivery.

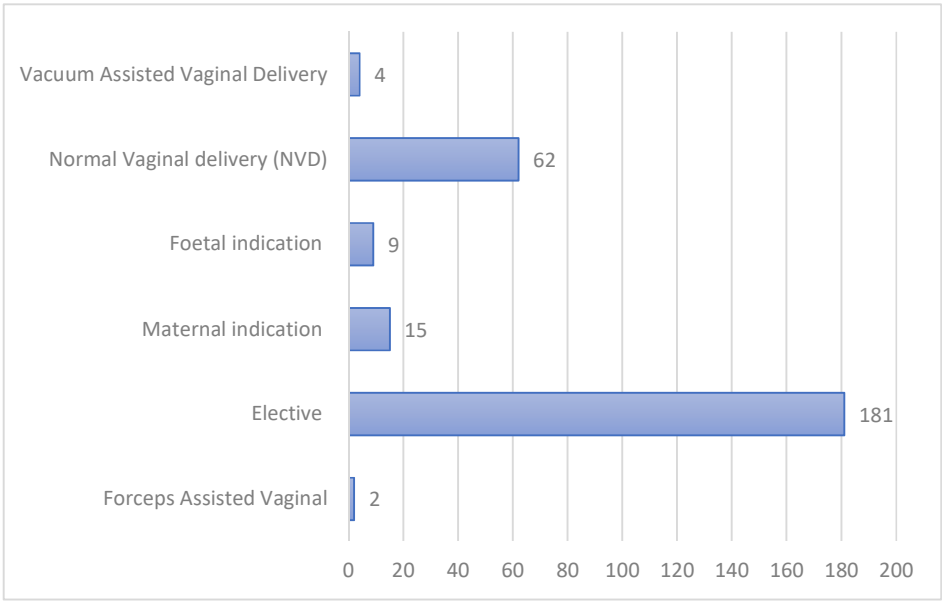


Figure no 8: Bar diagram representing the mode of delivery

Table 16: Requirement of resuscitation

Resuscitation	**Frequency**	**Percentage**
No resuscitation	238	87.2%
Tactile stimulation	28	10.3%
Bag & mask ventilation	7	2.6%
Bag & tube ventilation	-	-
Total	273	100%

In our study, 238 (87.2%) didn't require any active resuscitation. 28 (10.3%) were resuscitated by tactile stimulation and 7 (2.6%) were by bag & mask ventilation.

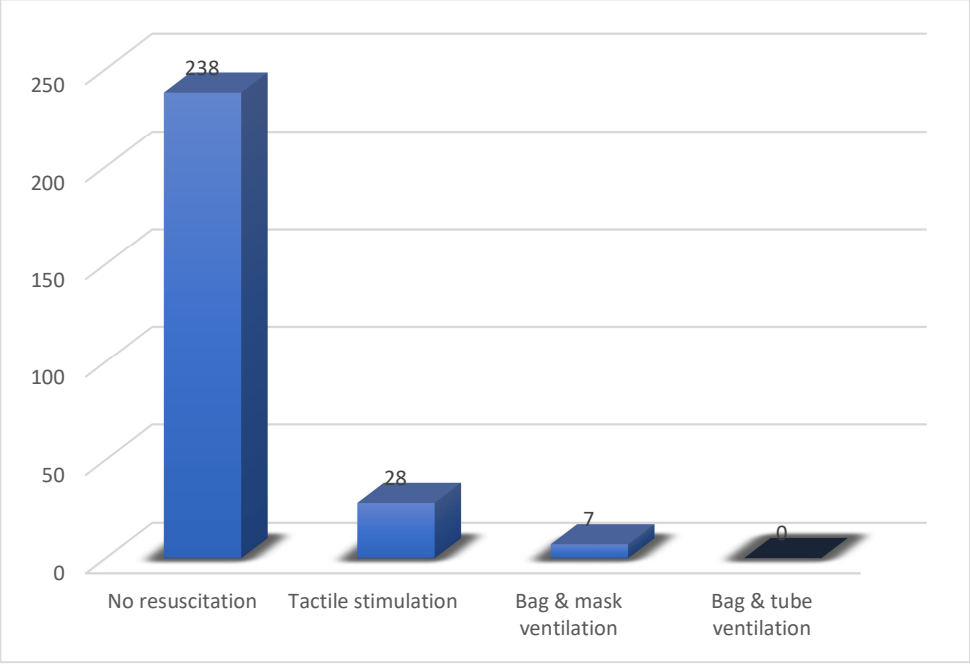


Figure no 9: Bar chart representing need for active resuscitation of the newborn

Table 17: APGAR at 1 min

APGAR – 1 min	Frequency	Percentage
5	2	0.7%
6	34	12.5%
7	237	86.8%
Total	273	100.0%

In our study, 237 (86.8%) were having APGAR score of 7 at 1 minute followed by APGAR-6 in 34 (12.5%), and APGAR-5 in 2 (0.7%). The minimum score was 5 and the maximum was 7. The mean score was 6.86 ± 0.36.

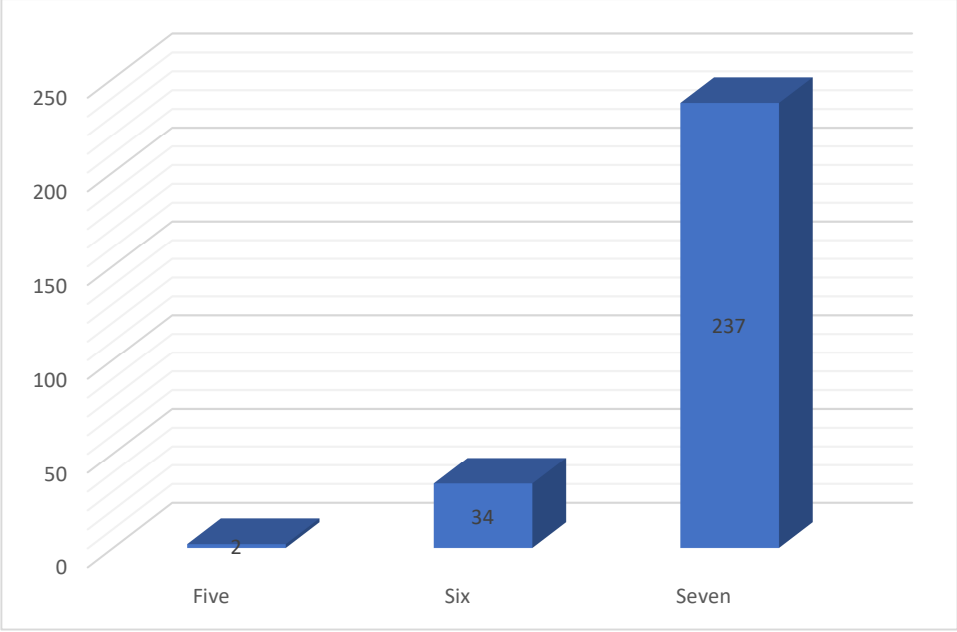


Figure 10- Bar diagram representing distribution of newborns according to APGAR score at 1min

Table 18: APGAR at 5 min

APGAR – 5 min	Frequency	Percentage
7	1	0.4%
8	20	7.3%
9	251	92.3%
Total	273	100.0%

In our study, 251 (92.3%) were having APGAR score of 9 at 5 minutes followed by APGAR- 8 in 20 (7.3%), and APGAR-7 in 1 (0.4%). The minimum score was 7 and the maximum was 9. The mean score was 8.91 ± 0.28

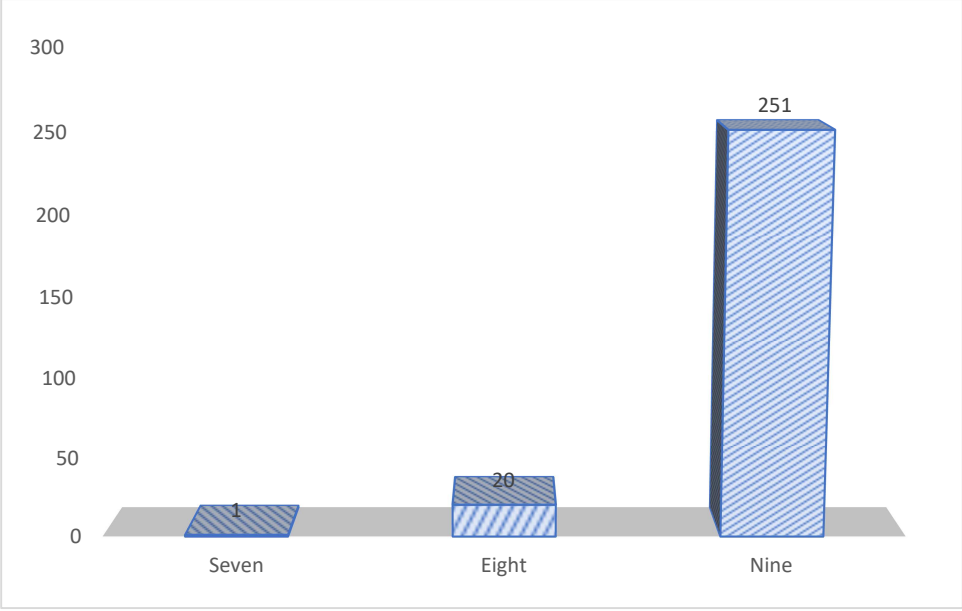


Figure-11 Bar diagram representing the distribution of newborns according to APGAR score at 5min

Table 19: Newborn gender

Newborn gender	Frequency	Percentage
Female	119	43.6%
Male	154	56.4%
Total	273	100%

In our study, 154 (56.6%) were male babies and 119 (43.4%) were female babies.

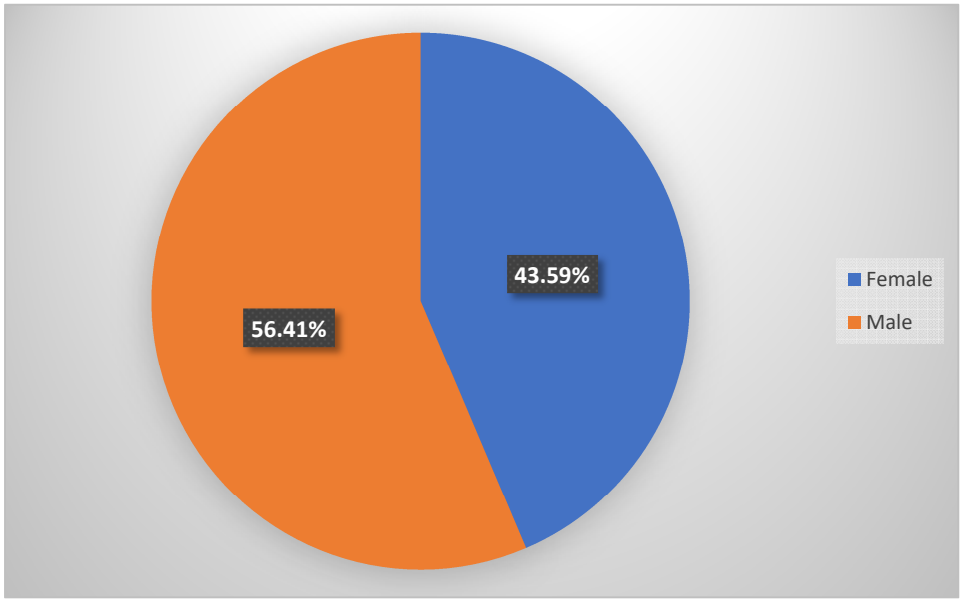


Figure 12: Pie chart showing Male: Female ratio in study participants

Table 20: Distribution based on gestational age

Gestational Age	Frequency	Percentage
Extremely preterm (<28 weeks)	-	-
Very preterm (28- <32 weeks)	5	1.8%
Moderate to Late preterm (32- 37 weeks)	47	17.2%
Term (37- 41 weeks)	221	81.0%
Post-term (>42 weeks)	-	-
Total	273	100

In our study, the majority of the neonates were born out of term 221 (81%) followed by Moderate to Late preterm 47 (17.2%) and very preterm 5 (1.8%).

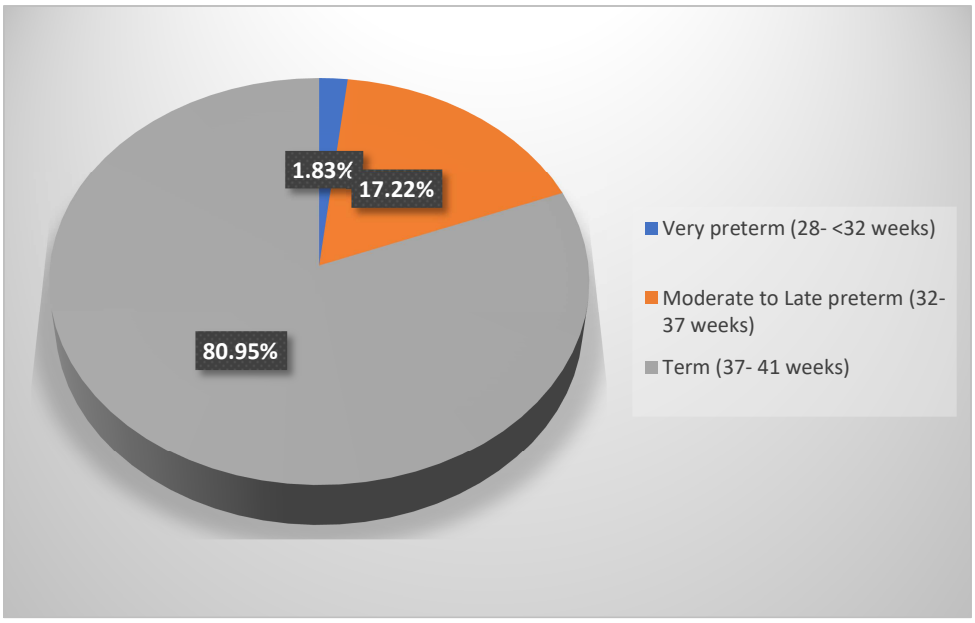


Figure 13: Pie diagram representing the gestational age of study participants

Table 21: Distribution of newborns according to birth weight

Anthropometry	Frequency	Percentage
AGA	190	69.6%
LGA	7	2.6%
SGA	76	27.8%
Total	273	100.0%

In our study, based on the anthropometric measures 190 (69.6%) were Appropriate to gestational age, 7 (2.6%) were large for gestational age, and 76 (27.8%) were SGA. The mean weight was a minimum of 1.10 kgs, and a maximum of 4.25 kgs. The mean weight of the neonates was 2.84 ± 0.469

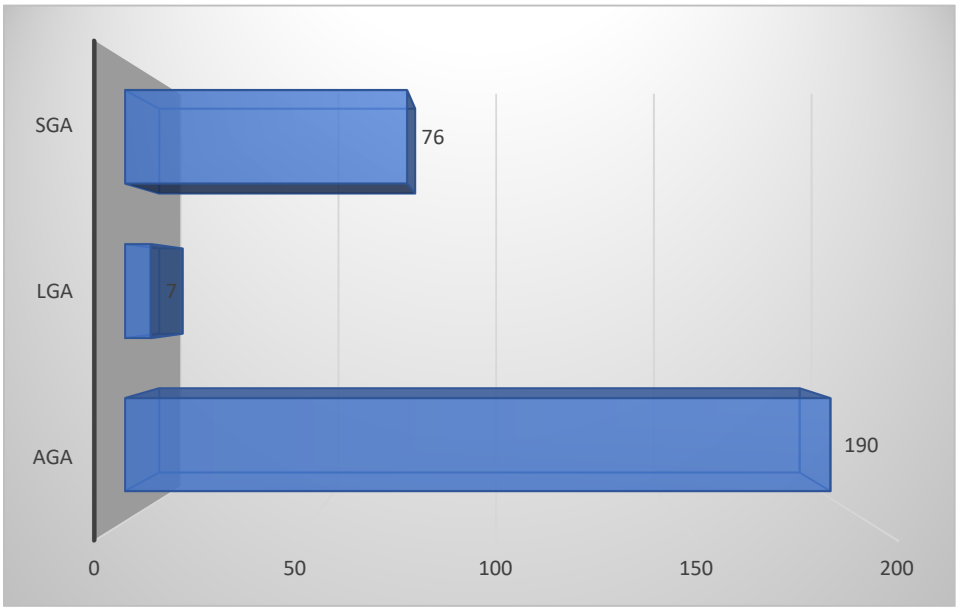


Figure no 14: Distribution (%) of SGA, AGA, and LGA birthweights in the study population

Table 22: Anthropometry Category vs Gestational Age

	SGA	AGA	LGA	Total
Very preterm	1 (20%)	4 (80%)	0	5
Moderate to Late preterm	17 (36.2%)	25 (53.2%)	5 (10.6%)	47
Term	58 (26.2%)	161 (72.9%)	2 (0.9%)	221
Total	76	190	7	273
The chi-square statistic is 20.3605. The p-value is .000424. The result is significant at $p < .05$.				

In our study, 26.2% of the term babies were with small gestational age, 36.2% of Moderate to Late preterm babies were small gestational age and 20% of the Very preterm babies were small gestational age. There is a significant difference observed between the anthropometry category and Gestational Age.

Table 23: Anthropometry category vs trimester of diagnosis.

	AGA	LGA	SGA	Total
Before Pregnancy	34 (57.6%)	1 (1.7%)	24 (40.6%)	59
1st trimester	46 (51.6%)	2 (2.5%)	41 (46.1%)	89
2nd trimester	17 (73.9%)	2 (8.7%)	4 (17.4%)	23
3rd trimester	93 (91.2%)	2 (1.9%)	7 (6.9%)	102
Total	190(69.6%)	7(2.6%)	76 (27.8%)	273
The chi-square statistic is 48.12. The p-value is <0.000001. The result is significant at $p < .05$.				

A significant difference was observed between the trimester of diagnosis and the anthropometric category.

Table 24: Anthropometry category vs trimester of diagnosis 2

	AGA	LGA	SGA for length	SGA for weight	SGA for weight and length	Total
Before Pregnancy	34 (57.6%)	1 (1.7%)	0	2 (3.4%)	22(37.3%)	59
1st trimester	46 (51.6%)	2 (2.5%)	3 (3.4%)	27(30.3%)	11(12.4%)	89
2nd trimester	17 (73.9%)	2 (8.7%)	1(4.3%)	3(13%)	0	23
3rd trimester	93 (91.2%)	2 (1.9%)	0	4(3.9%)	3(2.9%)	102
Total	190(69.6%)	7(2.6%)	4(1.5%)	36(13.2%)	36(13.2%)	273
Chi square value= 7.07, P value= 0.529						

Table 25: Mean Birth weight vs trimester of diagnosis

Trimester of diagnosis	**Birth weight**
1st trimester	2.59 ± 1.01
2nd trimester	2.84 ± 1.21
3rd trimester	2.96 ± 1.32
Total	2.84 ± 0.46
F value	3.514
P value	0.041

A significant difference between the trimester of diagnosis of maternal hypothyroidism and Birth weight has been observed.

Table 26: Mean Head circumference measure vs trimester of diagnosis

Trimester of diagnosis	Head circumference
1st trimester	32.4 ± 1.51
2nd trimester	33.53 ± 1.38
3rd trimester	33.74 ± 2.39
Total	36.5 ± 3.52
F value	3.362
P value	0.036

A significant difference was observed between the trimester of diagnosis of maternal hypothyroidism and head circumference.

Table 27: Mean Length of Newborns vs trimester of diagnosis

Trimester of diagnosis	Length
1st trimester	48.33 ± 2.52
2nd trimester	47.92 ± 2.49
3rd trimester	47.81 ± 2.68
Total	47.86 ± 2.51
F value	0.917
P value	0.586

No significant difference was observed between the trimester of diagnosis of maternal hypothyroidism and the newborn length.

Table 28: TSH of Newborns based on Gestational Age

TSH in Newborns based on Gestational Age	Mean ± SD	(Min-Max)
Very preterm (28- <32 weeks)	3.8 ± 2.06	(0.88 - 5.91)
Moderate to Late preterm (32- 37 weeks)	3.49 ± 3.40	(0.44 - 20.80)
Term (37- 41 weeks)	3.19 ± 3.30	(0.12 - 22.60)
Total	3.25 ± 3.29	(0.12 – 22.60)

In our study, TSH (mcIU/ml) in newborns based on gestational age was 3.8 ± 2.06 in very preterm babies, 3.49 ± 3.40 in moderate to late preterm babies, 3.19 ± 3.30 in term. The minimum TSH value was 0.12, and the maximum was 22.60. The mean TSH was 3.25 ± 3.29.

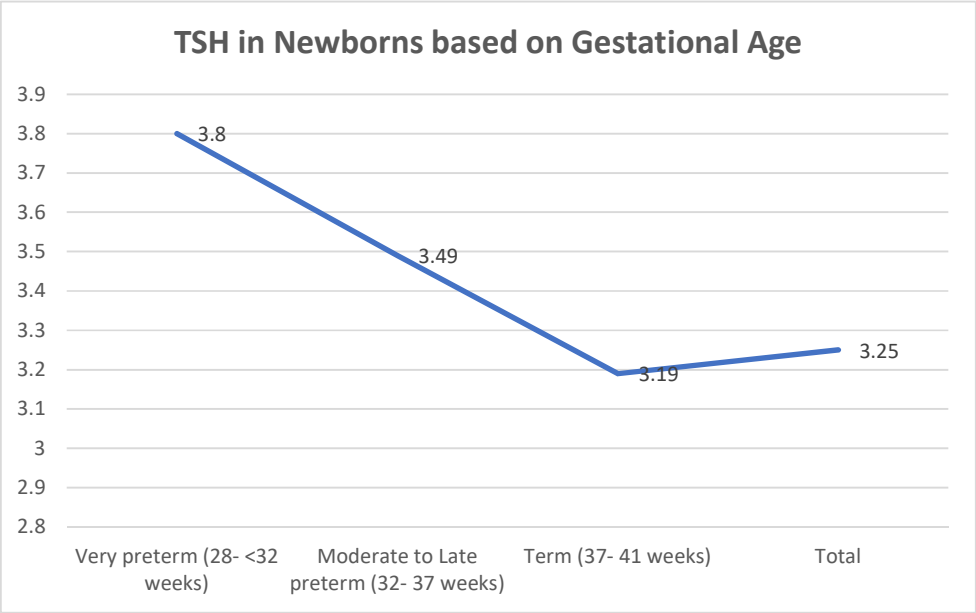


Figure no 15: Graph representing trends in TSH corresponding to gestational age

Table 29: Mean TSH in Newborns based on Gestational Age

TSH in Newborns vs. reference range	Mean ± SD	Reference Range
Very preterm (28- <32 weeks)	3.8 ± 2.06	3.6 ± 2.5
Moderate to Late preterm (32- 37 weeks)	3.49 ± 3.40	3.6 ± 4.8
Term (37- 41 weeks)	3.19 ± 3.30	2.6 ± 1.8

Table 30: Neonatal Outcomes

Neonatal Outcomes	**Frequency**	**Percentage**
Hyperbilirubinemia	50	18.3%
Respiratory distress syndrome (RDS)	10	3.7%
Late-onset sepsis (LOS)	1	0.4%
Transient Tachypnoea of the newborn (TTNB)	5	1.8%
Perinatal asphyxia	2	0.7%
Congenital hypothyroidism	-	-
Total	273	100%

In our study, 50 (18.3%) had Hyperbilirubinemia, 10 (3.7%) were with respiratory distress syndrome (RDS), 5 (1.8%) were with Transient Tachypnoea of the newborn (TTNB), 2 (0.7%) were with Perinatal asphyxia and 1 (0.4%) each with Late-Onset Sepsis (LOS).

Table 31: NICU admissions in the study population

1st trimester	34(12%)
2nd trimester	16(5%)
3rd trimester	10(3%)

In our study NICU admissions of babies with mothers diagnosed in 1st trimester-34(12%),2nd -16(5%),3rd trimester 10(3%)

DISCUSSION:

After diabetes mellitus during pregnancy, thyroid abnormalities are the second most frequent endocrine diseases. The consequences for mothers, fetuses, and newborns are significantly impacted by thyroid conditions.

This study was done in KAHER's DR. Prabhakar Kore Hospital and Medical Research Centre, Nehru Nagar, Belagavi -10. In our study, we study the growth parameters and neonatal outcomes in neonates born to hypothyroid mothers.

Numerous research analyzing fetal and maternal outcomes in hypothyroid pregnant women have been described. Among them, the results of pregnant euthyroid and hypothyroid women have been compared in several research. Overt and subclinical hypothyroidism during pregnancy have been contrasted by some. Studies comparing euthyroid pregnant women with subclinical hypothyroidism have also been conducted.

Hypothyroidism classification:

There were 273 pregnant women in the research over the time frame of our investigation. Out of them, 4 (1.4%) had overt hypothyroidism, and 269 (98.5%) had subclinical hypothyroidism. In 214 individuals, screening revealed hypothyroidism during the current pregnancy, and in 59 people, it was discovered before the current pregnancy. In the first trimester, hypothyroidism was identified in 89 individuals (32.6%), in the 2nd trimester in 23 mothers (8.4%), and the 3rd trimester in 102 mothers (25%)

This is similar to research by Ajmani et al. that found that 12% of people had hypothyroidism, with 3% having overt hypothyroidism and 9% having subclinical hypothyroidism, and the highest limit for TSH is 3.0 IU/l.

According to Mehadik et al., 22 (11%) of the 198 mothers who were examined have abnormal thyroid functions. Subclinical hypothyroidism is frequent during pregnancy as there was a higher prevalence of overt hypothyroidism (n = 11), subclinical hyperthyroidisms (n = 3), and 3.5% (n = 7) of subclinical hypothyroidism, respectively.

According to Pokhanna et al., 13% of people had hypothyroidism, of which 3% had overt hypothyroidism and 10% had subclinical hypothyroidism 30. Dhanwalet al. reported a prevalence of 14.3% when 4.5IU/L29 was used as the upper limit for TSH.

When compared to Western countries, Asian countries had reported a greater incidence of hypothyroidism, with variations ranging from 2.55% in the West to 11% in India. Increased dietary iodine consumption, the existence of goitrogenic compounds, and micronutrient deficiencies in iron and selenium may be the cause of this.

Mode of Delivery:

In our study, 205 (75.1%) were born out of LSCS.181(66.3%) were elective LSCS followed by 62 (22.7%) by NVD, 4 (1.5%) by vacuum-assisted vaginal delivery, and 2 by Forceps-assisted delivery.

Prabhat et al. reported that the common mode of delivery in hypothyroid mothers was cesarean section (63%) followed by spontaneous vaginal delivery (31%) and forceps delivery (6%)[55].

Mahadik et al. reported that 26.3% were delivered through the cesarian section[46].

The possible reason is that these were tertiary care teaching hospitals where referrals were sent. Cesarean section as an indication of fetal distress was significantly done among women with hypothyroidism. This emphasizes the importance of detecting subclinical thyroid disorders in Pregnancy.

Gestational Age:

In our study, the majority of the neonates were born out of term 221 (81%) followed by Moderate to Late preterm 47 (17.2%) and very preterm 5 (1.8%).

According to Maraka et al. Compared to euthyroid pregnant women, pregnant women with SCH There was no association found for preterm delivery Mehadik et al. stated that of those with hypothyroidism, 5.3% had preterm deliveries.

Korevar et al. reported that the chance of premature delivery is greater in mothers with subclinical hypothyroidism than in euthyroid mothers (6.1% vs. 5.0%), but not of extremely premature birth (0.71% vs. 0.8%; absolute risk difference, 0%). [95% confidence interval, -0.31% to 0.8%]

Newborn gender

In our study, 154 (56.4%) were male neonates and 119 (43.6%) were female neonates.

Newborn Activity:

In our study, 237 (86.8%) had an APGAR score of 7 at 1 minute followed by APGAR-6 in 34 (12.5%), and APGAR-5 in 2 (0.7%). The minimum score was 5 and the maximum was 7. The mean score was 6.86 ± 0.36

In our study, 252 (92.3%) were having APGAR score of 9 at 5 minutes followed by APGAR- 8 in 20 (7.4%), and APGAR-7 in 1 (0.4%). The minimum score was 7 and the maximum was 9. The mean score was 8.91 ± 0.28.

Mehadik et al. reported that the 1-min Apgar score cut-off value considered was 5, as an indicator for fetal asphyxia. Out of 19 hypothyroid women, 4 (21.1%) had babies with low Apgar scores which were significantly associated (p = 0.042). NICU admission of 42.1% was significantly associated with hypothyroidism (p = 0.000)[46].

Weights of Newborns:

In our study, based on the anthropometric measures 190 (69.6%) had Appropriate gestational age, 7 (2.6%) were large for gestational age, and 76 (27.8%) were small for gestational age. The mean weight was a minimum of 1.10 kgs, maximum weight was 4.25 kgs. The mean weight of the neonates was 2.84 ± 0.469.SGA babies born to mothers diagnosed in 1st trimester are 27(30.3%) ,2nd trimester-3(13%),3rdtrimester-4(3.9%)

This is comparable to a study reported by Gaikwad et al that low birth weight, in mothers diagnosed with hypothyroidism in the 1st trimester, is seen in 30%, of the 2nd -trimester 4%, while none in the 3rdtrimester group.[54]

This is opposite to a large Danish registry that, even after controlling for potential confounders, showed an elevated risk of higher birth weights related to hypothyroidism in women (adjusted differences 20 grams, 95% CI 10–30 grams) rather than LBW associated with hyperthyroidism. Numerous studies have shown no evidence of a significant association between low birth weight and maternal hypothyroidism in either early or late pregnancy [53].

According to Derakshan et al., maternal subclinical hypothyroidism was linked to a lower mean birth weight and a greater risk of SGA when compared to euthyroidism. The highest impact approximate for measurements in the 3rd trimester was higher than in the 1st or 2nd trimester. Even in the normal range, there is an inverse relationship allying the mother's TSH & FT4 and the birth weight52.

These outcomes highlight follow-up thyroid function testing when levothyroxine therapy is started during early pregnancy and the importance of further studies, preferably by repeated thyroid function tests.

The 1st part of pregnancy is when the association between the synthesis of thyroid hormones by the mother and the fetus is most significant. Transmission of thyroid hormone from the mother to the fetus is necessary for the early growth &maturation of the fetus's brain, particularly in the 1st trimester.

According to Mahadik et al., 31.61% of births were LBW newborns, and there is a strong (p = 0.001) correlation between low birth weights & hypothyroidism. mothers with hypothyroidism (95% CI = 2.03–19.5) have a 6.31-fold increased chance of delivering low birth weight infants compared to mothers with euthyroidism[46].

Head circumference and Length of Newborns:

In our study, the mean head circumference (cms) was 32.4 ± 1.51in those diagnosed in 1st trimester, 33.53 ± 1.38 in 2nd trimester, and 33.74 ± 2.39 in 3rd trimester. A noteworthy difference has been identified between the trimester of diagnosis and head circumference. Length(cms)of newborns In mothers diagnosed with hypothyroidism in 1st trimester-48.33 ± 2.52,2nd trimester- 47.92 ± 2.49,3rd trimester-47.81 ± 2.68 No significant difference was observed in the infant's length born to mothers diagnosed with hypothyroidism in different trimesters.

In relation to reference groups (89.6 mm; 95% CI 89.4-89.7 , P ¼.008), the head circumference of fetuses born to hypothyroxinaemia women was 0.7 mm (95% confidence interval [CI] 0.2-1.2) greater in the initial stages of pregnancy. The head circumference of the fetus did not alter significantly later in the pregnancy. In comparison to women with reference thyroid status, postnatal infants born to mothers with hypothyroxinaemia had greater head circumferences (2.4 mm; 95% CI 1.0-3.8, P ¼.001 in early infancy and 2.0 mm; 95% CI 0.4 -3.5, P ¼.01 in mid-infancy).

According to Blazer et al., the 77 newborn study babies with hypothyroidism had lower head circumferences and birth weights than the controls (P <.001 and P <.01 , respectively).

Regular monitoring of thyroid status and reconciliation of levothyroxine dose during pregnancy is vital because of variations in T4 metabolism in pregnancy. Period of maternal hypothyroxinaemia and the resultant decreased thyroid hormones shift to the fetus may cause a simultaneous effect in the fetal thyroid. A possible base for this theory comes from the finding of a smaller head circumference in our study of newborns.

No studies were comparable between the trimester of diagnosis of maternal hypothyroidism and newborn length.

Neonatal Outcome:

In our study, 50 (18.3%) had Hyperbilirubinemia, 10 (3.7%) were with respiratory distress syndrome (RDS), 1 (0.4%) each with Late-Onset Sepsis (LOS), and 5(1.8%) with Transient Tachypnoea of the newborn (TTNB), 2 (0.7%) were with Perinatal asphyxia. None of them was labeled to have congenital hypothyroidism. In our study NICU admissions of babies with mothers diagnosed in 1^{st} trimester-34(12%),2^{nd} -16(5%),3^{rd} trimester 10(3%)

This is similar to research by Gaikwad et al. on 114 hypothyroid moms, whereby 2 (2% of kids) had neonatal hypothyroidism, 44 (39%) newborns needed to be admitted to the NICU, and 38 (33%) babies had neonatal hyperbilirubinemia.

Babies whose mothers have hypothyroidism in the 1^{st} trimester (35%), 2^{nd} trimester (24%), or 3rd trimester (6%), must be admitted to the NICU.

The risk of neonatal NICU admissions is 0.14 times greater in mothers with hypothyroidism than in euthyroid mothers, according to Mahadik et al.'s study of NICU admission in 42.1% of cases ($p = 0.000$)[46].

When measured on the first three days of life, newborn jaundice was shown to be the most common medical condition (37.6%), with phototherapy being needed in nearly 15% of cases, according to Kiran et al.[56]

TSH in Newborns:

In our study, TSH (mcIU/ml) in newborns based on gestational age was 3.8 ± 2.06 in very preterm babies, 3.49 ± 3.40 in moderate to late preterm babies, 3.19 ± 3.30 in term. The minimum TSH value was 0.12, and the maximum was 22.60. The mean TSH was 3.25 ± 3.29.

Despite being positive, the relation coefficient allying maternal and serum fetal fT3 was not noteworthy, according to Prabhat et al. After testing, the fetal TSH level was 5.41 ± 6.90 µIU/ml. Although there was a positive relation allying fetal & maternal serum TSH, it was not statistically significant. Although there was a little link between the mother's and the fetus's TSH levels, it was not statistically significant.[55]

Neonatal TSH level was not correlated to gestational age in the study. A lot of prior studies had described that TSH levels increase with increasing gestation [21,24]; otherwise, a negative correlation has also been reported [23], other studies had reported higher TSH levels, in premature than in mature babies [6], and a lot of studies have described no variation in TSH levels in regards to gestational age [10,13,15].

CONCLUSION:

In our study, SGA babies born to women identified with hypothyroidism in 1st trimester are 30.3% which was statistically significant and a significant variation was allying the trimester of diagnosis of maternal hypothyroidism and head circumference.

From this, we emphasize the importance of early diagnosis, regular monitoring, and dose revision throughout the pregnancy.

The first part of pregnancy is when the association between maternal and fetal thyroid hormone synthesis is most significant. The mother's transmission of thyroid hormones is vital, particularly in the 1st trimester, as it is necessary for the early growth and maturation of the fetal brain.

SUMMARY

This hospital-based cross-sectional study was conducted at KLEH Dr. Prabhakar Kore Hospital, Belgaum, Karnataka, from January 2023 to January 2024, we studied the growth parameters and neonatal outcomes in neonates born to hypothyroid mothers—273 pregnant women in the research over the time frame of our investigation. Out of them, 4 (1.4%) had overt hypothyroidism, and 269 (98.5%) had subclinical hypothyroidism. In 214 individuals, screening revealed hypothyroidism during the current pregnancy, and in 59 people, it was diagnosed before the current pregnancy. In the first trimester, hypothyroidism was identified in 89 individuals (32.6%), in the 2nd trimester in 23 mothers (8.4%), and the 3rd trimester in 102 mothers (25%)

Demographics and characteristics:

1. Age: 217 women (79.5%) belong to the age group 20-30, 45 (16.5%) in the age group of > 30 years. and 11(4%) in the age group of <20 years
2. Literacy: 90% of mothers were literate and 9.8% had no formal education
3. 38% of mothers are from rural areas and 61% from urban areas
4. Maximum patients were gravida 2; the minimum was the fourth gravida. 97 patients of 273 were primigravida, 106 patients were 2nd gravida, 56 patients were 3rd gravida, and 14 patients were 4th gravida in our study.
5. 32 (11.7%) had a previous history of abortion 88.3% had no previous history of abortions.

Medication:

1. The minimum dose of thyroxine was 12.5mcg and the maximum was 150mcg. The mean dosage of treatment was 43.98 ± 25.29. majority of them114 (41.8%) and 273 were taking a 25mcg per day dosage.
2. 19 of 89 women diagnosed in 1st trimester thyroxine dose has been revised. 4 of 23 women diagnosed in 2nd trimester had a revised dose. 6 of 102 women diagnosed in 3rd trimester had a dose revision

Mode of delivery:

Majority were born out of LSCS (75%) out of which 66.3% were elective LSCS 3.3% were due to fetal indications and 5.5% were due to maternal indications. Normal vaginal delivery was 22.7%, assisted vaginal delivery was 2%

Resuscitation:

The majority of babies 87.2% didn't require any active resuscitation.10.3% required tactile stimulation, and 2.6% required bag and mask ventilation.

APGAR scores:

237 (86.8%) were having APGAR score of 7 at 1 minute followed by APGAR-6 in 34 (12.5%), and APGAR-5 in 2 (0.7%). The minimum score was 5 and the maximum was 7. The mean score was 6.86 ± 0.36.

251 (92.3%) had an APGAR score of 9 at 5 minutes followed by APGAR-8 in 20 (7.3%), and APGAR-7 in 1 (0.4%). The minimum score was 7 and the maximum was 9. The mean score was 8.91 ± 0.28

Demographics:

1. The study included 56.6% male babies and 43.3% female babies81% of neonates were born at term, moderate to late preterm were 17.2%, very preterm were 1.8%.

Weight of newborns:

1. 30.3% of neonates born to mothers with hypothyroidism diagnosed in 1st trimester were SGA for weight and 11% were SGA for both weight and length.
2. 23% of neonates born to hypothyroid mothers diagnosed in 2nd trimester were SGA for weight
3. 9% of neonates born to hypothyroid mothers diagnosed in 3rd trimester were SGA for weight 2.9% were SGA for weight and length.
4. Mean birth weight of neonates born to mothers diagnosed in 1st trimester-2.59 ± 1.01 2nd trimester-2.84 ± 1.21 and diagnosed in 3rd trimester-2.96 ± 1.32.
5. A significant difference between the trimester of diagnosis of maternal hypothyroidism and the Birth weight has been observed

Head circumference:

The mean head circumference of neonates born to mothers diagnosed in 1st trimester is 32.4 ± 1.51,2nd trimester-33.53 ± 1.38, and those diagnosed in3rd trimester-33.74 ± 2.39. A significant difference was observed between the trimester of diagnosis of maternal hypothyroidism and head circumference.

Length of newborns:

The mean length of neonates born to mothers diagnosed in 1st trimester is 48.33 ± 2.52, 2nd trimester-47.92 ± 2.49 and those diagnosed in 3rd trimester is 47.81 ± 2.68. No significant difference has been observed between the trimester of diagnosis of maternal hypothyroidism and the length of neonates.

Neonatal outcomes:

In our study, 18.3% of babies had hyperbilirubinemia,3.7% of babies had RDS,1.8% had TTNB, and 0.7% had perinatal asphyxia. none of them were diagnosed with congenital hypothyroidism.

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ANNEXURE-I

INFORMED CONSENT FORM

"EVALUATION OF GROWTH OF NEONATES BORN TO HYPOTHYROID MOTHERS - A CROSS-SECTIONAL STUDY"

Principle Investigator: **Co-Investigator**:

Objective: To study the growth parameters in babies born to hypothyroid mothers.

Introduction: studies show maternal hypothyroidism both overt and subclinical is associated with newborn growth.

Hence this study will be carried out to check this association

Explanation of procedure:

Detailed history with physical examination is taken .new born length, head circumference, and weight are recorded and plotted on a Fenton's chart and are compared to maternal thyroid level respective to the trimester

Withdrawal from participation in the study: Participation in this study is voluntary. You can decide whether to participate in this study or continue participating once enrolled. If you withdraw your participation, you are free to do so. However, please convey the decision to the principal investigator.

Possible benefits from participating in the study: You will/will not have nor get any benefits by participating in this study. The data gathered will help the population at large.

Possible risks from participating in the study: There are no risks involved in participating in this study.

Privacy and confidentiality: The information collected from you will be coded, to prevent any person from identifying you. Your identity will never be revealed. The data collected from you will be kept confidential and only processed or aggregated data will be used for publication.

Financial incentives: You will not receive any payment for participating in this study.

Authorization for publication of aggregated data: Results obtained after processing of the aggregated data will be published for scientific purposes and or presented to scientific groups.

However, your identity will never be revealed.

Questions:

If you have any questions or complaints concerning your right as a study participant you may contact Dr Harsha Hegde, Chairperson, Ethical committee of JNMC, 0831-2473777 Extension 4052.

Legal rights: By signing this consent form, we are not waiving any of your legal rights.

CONSENT STATEMENT

I am making a voluntary decision to participate in the study "**EVALUATION OF GROWTH OF NEONATES BORN TO HYPOTHYROID MOTHERS - A CROSS-SECTIONAL STUDY"** My signature below indicates that I have decided to participate and I have read the information provided above or the information provided above has been read to me in the language that I understand best. I was allowed to ask questions and they have been answered to my satisfaction.

Name of the participant:

Signature or left thumb impression of the participant:

Name of the witness:

Signature or left thumb impression of the witness:

Name of the investigator:

Signature of the investigator:

ANNEXURE-II

PROFORMA-MOTHER

"EVALUATION OF GROWTH OF NEONATES BORN TO HYPOTHYROID MOTHERS - A CROSS-SECTIONAL STUDY"

Principal Investigator:

Guide:

SUBJECT NO: -_____ IP No: - _____

FIRST NAME: MIDDLE NAME: LAST NAME:

AGE: SEX: ADDRESS:

PHONE NUMBER:

REGISTERED	
UNREGISTERED	

MODE OF DELIVERY:

C-SECTION	
NORMAL DELIVERY	
VENTOUSE	
INSTRUMENTAL	

OBSTETRIC HISTORY:

GRAVIDA	
PARA	
LIVING	
ABORTION	
DEATH	

MENSTRUAL HISTORY:

LAST MENSTURAL PERIOD	
EXPECTED DATE OF DELIVERY	
PERIOD OF GESTATION	

PAST HISTORY

K/C/O HYPERTHYROIDISM/HYPOTHYROIDISM	
DIABETES	
HYPERTENSION	
PREVIOUS BAD OBSTETRIC HISTORY	

INVESTIGATIONS

DATE	GESTATIONAL AGE	SERUM TSH	FREE T4	TPO ANTIBODIES	TYPE OF HYPOTHYROIDISM

ON TREATMENT	DURATION	DOSAGE

NEWBORN DATA

SCREENING NUMBER:

DATE OF SCREENING:

IP NUMBER:

NAME: AGE: SEX:

BIRTH WEIGHT-

BIRTH LENGTH-

HEAD CIRCUMFERENCE-

APGAR SCORE:

1 MINUTE	5 MINUTES

TSH	

	HEAD-TO-TOE EXAMINATION	SYSTEMIC EXAMINATION
DAY 0		
DAY 1		
DAY 2		
DAY 3		
DAY 4		
DAY 5		
DAY 6		
DAY 7		

ANNEXURE III - MASTER CHART

SL. No	DATE	IPNO	NAME	GESTATIONAL AGE	Mothers Age	Maternal Literacy	Residence	Parity	Abortions	TRIMESTER	Duration Classi	dosage(mcg)	Treatment adjustment	MATERNAL TSH	HYPO Classi	AGE	MODE OF DELIVERY	Resuscitation	APGAR-1MIN	5MIN	GENDER	GA	BIRTH WEIGHT	WHO	LENGTH(CMS)	HEAD CIRCUMFERENCE	TSH(mCIU/ml)-baby	NEONATAL OUTCOMES
1	28-05-2023	6773183	B/O VARSHA	40WKS 3DAYS	30	Yes	Urban	2	No	3	<1 Year	12.5	Not done	0.61	Subclinical	day 0	LSCS- Elective	No Resuscitation	7	9	F	T	3	AGA	48	34	0.61	
2	29-05-2023	7063613	B/O SNEHA	37WKS 6DAYS	21	Yes	Urban	3	No	3	<1 Year	50	Not done	7.97	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.4	SGA for weight	48	32	2.41	Hyperbilirubinemia
3	25-05-2023	6867117	B/O POOJA	40WKS 1DAY	22	Yes	Rural	1	No	3	<1 Year	12.5	Not done	1.61	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	F	T	2.8	AGA	49	34	0.55	
4	23-06-2023	7098264	B/O ROHINI	37wks 2days	21	Yes	Urban	1	No	3	<1 Year	25	Not done	4.02	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.6	SGA for length	45	32.6	1.55	
5	25-06-2023	7098302	B/O MUSKAN	39WKS 6DAYS	24	Yes	Rural	2	No	3	<1 Year	75	Not done	5.38	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	48.5	34	2.35	
6	23-06-2023	7096817	B/0 RAVINA	39WKS3DAYS	20	Yes	Rural	3	No	3	<1 Year	50	Not done	3.99	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.2	AGA	47	34.5	1.67	RDS
7	26-06-2023	1197132	B/0 VANITA	36WKS 2DAYS	29	Yes	Rural	4	No	2	<1 Year	12.5	Not done	1.6	Subclinical	day0	NVD	No Resuscitation	7	9	M	MLPT	2.6	AGA	45	33	5.42	Hyperbilirubinemia
8	23-06-2023	1197741	B/0 CHANAMMA	38WKS 5DAYS	18	Yes	Rural	3	No	3	<1 Year	12.5	Not done	4.6	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	48	33.6	0.6	Hyperbilirubinemia
9	28-06-2023	1198727	B/O SAVITA	37WKS 1DAY	20	Yes	Urban	4	No	3	<1 Year	50	revision done	5.15	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.4	SGA for weight and length	45	31.5	3.33	
10	22-06-2023	7095295	B/O DEEPA	39WKS1DAY	29	Yes	Urban	2	No	2	<1 Year	12.5	Not done	2.1	Subclinical	day0	FORCEPS ASSISTED VAGINAL	No Resuscitation	7	9	F	T	2.5	SGA for weight and length	46	33	0.48	
11	24-06-2023	7100098	B/O HEENA	40WKS2DAYS	29	Yes	Rural	2	No		1-5 Years	50		1.36	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	F	T	3.6	AGA	52	33.8	0.56	
12	27-06-2023	6821396	B/O MAYURI	39WKS 5DAYS	30	Yes	Rural	2	Yes	3	<1 Year	37.5	Not done	3.63	Subclinical	day2	LSCS- Elective	No Resuscitation	6	9	M	T	2.9	SGA for weight and length	46	33.2	0.77	RDS
13	26-06-2023	1198403	B/O SHAMAL JYOTIBA	39WKS 5DAYS	19	No	Rural	2	No	2	<1 Year	50	Not done	6.89	Subclinical	day0	VACCUM ASSISTED VAGINAL DELIVERY	No Resuscitation	7	9	M	T	3.85	AGA	52	36.5	1.97	Hyperbilirubinemia
14	05-07-2023	7111603	B/O POOJA	40WKS 2DAYS	20	Yes	Urban	3	No	1	<1 Year	50	revision done	1.67	Subclinical	day3	LSCS- Emergency	No Resuscitation	7	9	F	T	3.9	AGA	50	35.1	5.3	
15	05-06-2023	1193437	B/OARATHI	39WKS	23	Yes	Urban	1	No	2	<1 Year	37.5	Not done	2.93	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.9	SGA for length	47	33.1	2.1	Hyperbilirubinemia
16	03-07-2023	7109847	B/0 ASWINI	38WKS 4DAYS	28	Yes	Urban	3	No	3	<1 Year	25	Not done	2.57	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	F	T	2.94	SGA for length	47	33	4.5	Perinatal asphyxia
17	08-07-2023	7112791	B/O MEGHA	40WKS1DAY	30	Yes	Rural	2	No	3	<1 Year	25	revision done	4.46	Subclinical	day3	LSCS- Elective	No Resuscitation	7	9	F	T	2.97	AGA	49	34	0.12	
18	06-07-2023	7112807	B/OPOOJA	39WKS2DAYS	26	Yes	Rural	1	No	2	<1 Year	25	revision done	1.76	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.5	SGA for weight and length	45	33	0.67	Hyperbilirubinemia
19	05-07-2023	7112782	B/O RATAN	40WKS5DAYS	25	Yes	Urban	2	Yes	3	<1 Year	25	Not done	0.48	Subclinical	day0	LSCS- Emergency	No Resuscitation	6	9	F	T	3.5	LGA	50	35.1	0.48	
20	03-07-2023	1200010	B/O BISMILLA	32WKS4DAYS	23	No	Rural	1	No	1	<1 Year	25	Not done	5.06	Subclinical	day0	LSCS- Elective	Tactile stimulation	6	8	M	MLPT	1.1	SGA for weight and length	37	28	3.95	Hyperbilirubinemia
21	18-07-2023	1203760	B/O KRITI	35WKS6DAYS	20	Yes	Urban	1	No	1	<1 Year	25	revision done	3.5	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	F	MLPT	1.65	SGA for weight and length	40	31	2.4	RDS
22	06-07-2023	7112805	B/O ASHWINI	39WKS 4DAYS	23	Yes	Rural	1	No	1	<1 Year	12.5	Not done	0.4	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3	AGA	47	33	2.09	Hyperbilirubinemia
23	15-07-2023	1202919	B/O ARCHANA	39WKS 5DAYS	29	Yes	Urban	4	No	1	<1 Year	50	Not done	2.94	Subclinical	day1	LSCS- Elective	No Resuscitation	7	9	F	T	3	AGA	48	35.5	4.69	
24	22-06-2023	1197510	B/0 SUVARNA	40WKS1DAY	22	Yes	Urban	2	Yes		1-5 Years	50		3.49	Subclinical	day0	LSCS- Emergency	Tactile stimulation	7	9	M	T	2.9	SGA for weight and length	47	34	1.96	
25	07-07-2023	1200764	B/O SANGEETA	40WKS 1DAY	23	Yes	Urban	2	No		1-5 Years	100		0.214	Subclinical	day1	LSCS- Elective	No Resuscitation	7	9	F	T	2.8	SGA for weight and length	48	33	1.57	Hyperbilirubinemia
26	08-07-2023	7115745	B/O VIJAYANTI	39WKS 3DAYS	22	Yes	Urban	2	No	3	<1 Year	25	Not done	4.93	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3.1	AGA	48	35.2	11.3	
27	09-07-2023	7117455	B/O ROHINI	36WKS 5DAYS	24	Yes	Rural	2	No		1-5 Years	25		1.87	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	3	AGA	47	32.5	1.64	Hyperbilirubinemia
28	13-07-2023	1202016	B/0 GANGAVVA	39WKS 1DAY	27	No	Urban	2	No		1-5 Years	25		1.07	Subclinical	day2	LSCS- Elective	Tactile stimulation	6	8	M	T	2.5	SGA for weight and length	46	34	1.22	TTNB
29	22-06-2023	7121764	B/O SHITAL	36WKS 5DAYS	30	Yes	Rural	1	Yes	3	<1 Year	25	Not done	2.44	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	1.96	SGA for weight and length	41	31.5	9.62	
30	11-07-2023	7120477	B/O ROOPA	38WKS 6DAYS	21	Yes	Rural	2	No	2	<1 Year	75	Not done	5.19	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.85	AGA	47	34	0.89	Perinatal asphyxia
31	11-07-2023	7111544	B/O ROHINI RAGHAVENDRA	38WKS 6DAYS	27	Yes	Urban	1	No	2	<1 Year	50	Not done	3.05	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.65	SGA for weight and length	46	32.6	3.01	
32	12-07-2023	1202200	B/O SAVITA RAMESH	37WKS 1DAY	28	Yes	Urban	2	No	3	<1 Year	25	Not done	1.05	Subclinical	day0	LSCS- Emergency	Tactile stimulation	7	9	F	T	2.3	AGA	46	31.5	3.92	Hyperbilirubinemia
33	14-07-2023	1202391	B/O SONALI MAHESH	39WKS	29	No	Rural	2	No	3	<1 Year	50	Not done	1.93	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.7	SGA for weight	47	33.8	4.02	Hyperbilirubinemia
34	12-07-2023	1202335	B/O ANITA MARUTI	38WKS	18	Yes	Urban	2	Yes	1	<1 Year	25	revision done	2.13	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.56	AGA	45	33	3.13	RDS
35	08-07-2023	1201345	B/O SONALI SUNIL	38WKS 4DAYS	30	Yes	Rural	2	No	3	<1 Year	50	Not done	1.05	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	F	T	2.9	AGA	47	33	9.06	
36	15-05-2023	7045049	B/O ASWINI PHANI	37WKS 6DAYS	22	Yes	Urban	2	No	3	<1 Year	25	revision done	3.36	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	M	T	2.9	AGA	48.5	33.6	2.82	

37	15-05-2023	7046204	B/O MEGHA LOKESH	39WKS 5DAYS	29	Yes	Urban	2	No		1-5 Years	75		4	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	M	T	3.35	AGA	49	33.5	8.42	Hyperbilirubinemia
38	22-05-2023	1190343	B/O DEEPA RAVI	37WKS 6DAYS	24	No	Rural	3	No	3	<1 Year	50	Not done	2.7	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.7	AGA	48	33	0.65	
39	26-05-2023	7057312	B/O KAJAL KAMANI	40WKS 3DAYS	22	Yes	Rural	1	Yes	1	<1 Year	25	Not done	2.48	Subclinical	day3	NVD	No Resuscitation	7	9	F	T	3.4	AGA	48	34	0.49	Hyperbilirubinemia
40	21-05-2023	7054262	B/O NAFEESA MOHAMMED	38WKS1DAY	30	Yes	Urban	4	No	1	<1 Year	25	Not done	2.48	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	M	T	3.5	AGA	49	34	2.35	RDS
41	27-05-2023	7057409	B/O RENUKA SHASHIDAR	40WKS 1DAY	20	Yes	Urban	3	No	3	<1 Year	50	Not done	3.68	Subclinical	day2	NVD	No Resuscitation	7	9	M	T	2.7	SGA for weight and length	48	33	5.16	
42	24-05-2023	7058431	B/O KAVITA THIRTARAJ	39WKS 2DAYS	25	Yes	Urban	1	No		1-5 Years	50		2.04	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	M	T	3	AGA	49	34	3.06	Hyperbilirubinemia
43	26-05-2023	7061181	B/O ASHWINI DUNDAPPA	39WKS 5DAYS	25	No	Urban	2	No	3	<1 Year	50	Not done	10.57	Overt	day0	FORCEPS ASSISTED VAGINAL	No Resuscitation	7	9	M	T	2.9	AGA	48	34	10.19	
44	28-05-2023	7063571	B/O RENUKA ARJUN	39WKS 5DAYS	22	Yes	Urban	1	Yes	2	<1 Year	25	revision done	3.43	Subclinical	day0	NVD	Tactile stimulation	7	9	M	T	3.1	AGA	49	34	1.57	
45	24-05-2023	7058754	B/O POOJA KSPIL	37WKS6DAYS	29	Yes	Urban	2	No	3	<1 Year	25	Not done	4.86	Subclinical	day0	LSCS- Elective	No Resuscitation	7	8	M	T	3.4	AGA	48	33	10.25	Hyperbilirubinemia
46	27-05-2023	7063444	B/O KUSUM ROHAN	36WKS 3DAYS	19	Yes	Urban	3	No	2	<1 Year	25	Not done	11.13	Overt	day0	LSCS- Elective	No Resuscitation	7	8	M	MLPT	2.7	AGA	46	32	1.62	
47	14-07-2023	1202919	B/O ARCHANA RAJARAM	39WKS5DAYS	21	No	Urban	2	No	1	<1 Year	50	revision done	4.75	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3	AGA	48	34	4.69	Hyperbilirubinemia
48	16-07-2023	1203210	B/O TEJALPANKAJ	39WKS 3DAYS	21	Yes	Rural	3	No	3	<1 Year	50	Not done	3.56	Subclinical	day0	NVD	Tactile stimulation	7	9	F	T	2.7	SGA for weight	47	34	4.73	RDS
49	23-06-2023	1197851	B/O ANHA MOHAMMADADIL	33WKS 5DAYS	26	Yes	Rural	1	Yes	3	<1 Year	50	Not done	2.7	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	F	MLPT	1.5	SGA for weight	40	30	4.15	
50	19-08-2023	10000715	B/O NALINI MADRASI	37WKS	21	Yes	Urban	3	No	3	<1 Year	50	revision done	3.2	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.9	AGA	48.5	34	2.29	
51	10-09-2023	10001897	B/O MANGALA	37WKS 4DAYS	23	No	Urban	3	No	1	<1 Year	25	Not done	4.1	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.1	AGA	49	34	3.2	Hyperbilirubinemia
52	06-05-2023	1205464	B/O SAVITA	38WKS 1DASY	27	Yes	Rural	2	No	3	<1 Year	12.5	Not done	3.4	Subclinical	day0	NVD	Tactile stimulation	7	9	M	T	2.4	SGA for weight	47	33	2.8	
53	30-09-2023	10010141	B/O SHAHEEN ABUBAKAR	37WKS3DAYS	29	Yes	Rural	4	No	3	<1 Year	25	Not done	1.96	Subclinical	day3	NVD	No Resuscitation	6	9	M	T	3	AGA	48	34.5	2.05	Hyperbilirubinemia
54	01-10-2023	10010086	B/O PRATIKSHA NAGESH	38WKS 3DAYS	20	Yes	Urban	3	No		1-5 Years	50		2.19	Subclinical	day3	LSCS- Emergency	No Resuscitation	7	9	M	T	3.1	AGA	48	35	2.56	
55	03-01-2023	10009921	B/O KAVITA RAMESH	37WKS 5DAYS	20	Yes	Rural	1	Yes	3	<1 Year	50	Not done	3.49	Subclinical	day3	NVD	No Resuscitation	7	9	M	T	2.5	SGA for weight	47	33.2	1.4	
56	27-09-2023	10009644	B/O VIDYA	38WKS 3DAYS	28	No	Urban	2	No	1	<1 Year	25	Not done	1.3	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	F	T	2.9	AGA	47	33.5	2.44	RDS
57	19-09-2023	10007752	B/O MAHALAXMI SHANKAR	35WKS 3DAYS	20	Yes	Rural	1	No	3	<1 Year	25	Not done	1.51	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.42	SGA for length	44	31	1.43	Hyperbilirubinemia
58	20-09-2023	10007937	B/O VEENA SOMASHEKAR	39WKS 3DAYS	30	Yes	Urban	1	No	3	<1 Year	25	Not done	5.83	Subclinical	day3	LSCS- Elective	No Resuscitation	6	9	M	T	3.6	AGA	49	35	2.29	
59	19-09-2023	7195400	B/O SUMA VEERAPPA	38WKS 2DAYS	29	Yes	Urban	1	Yes	3	<1 Year	37.5	Not done	3.2	Subclinical	day3	NVD	No Resuscitation	7	9	M	T	3	AGA	48	34.4	1.45	Hyperbilirubinemia
60	20-09-2023	7196126	B/O DEEPA MUAGEPPA	37WKS 3DAYS	21	Yes	Urban	2	No	1	<1 Year	25	revision done	1.89	Subclinical	DAY0	LSCS- Elective	Tactile stimulation	7	9	M	T	2.92	AGA	47	33.5	1.27	
61	15-09-2023	10006763	B/O RASIKA PUNDALIK	39WKS 4DAYS	26	No	Rural	3	No	3	<1 Year	25	Not done	2.7	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.9	AGA	48	34	10.1	
62	21-09-2023	10007982	B/O SEHREMUBEEN ALTAMASH	38WKS 1DAY	29	Yes	Urban	2	No		1-5 Years	75		2.4	Subclinical	day3	NVD	No Resuscitation	7	9	F	T	2.7	AGA	46	33.5	5.01	RDS
63	19-09-2023	1007812	B/O NIKITA VIKRAM	38WKS 5DAYS	19	Yes	Rural	2	No	3	<1 Year	25	Not done	2.33	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	M	T	2.9	AGA	47	35	0.52	Hyperbilirubinemia
64	20-09-2023	10007968	B/O RENUKA MOHAN	40WKS	31	Yes	Urban	4	Yes	1	<1 Year	25	Not done	8.01	Subclinical	day3	NVD	No Resuscitation	7	9	M	T	3.2	AGA	48	35	0.98	
65	12-09-2023	10006178	B/O ASHA ARUN	35WKS 2DAYS	24	Yes	Rural	2	No	3	<1 Year	50	Not done	3.5	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	1.85	SGA for weight	44	30	1.34	Hyperbilirubinemia
66	10-09-2023	10005913	B/O KALI MONICA	39WKS 4DAYS	21	Yes	Rural	1	No		>5 Years	75		2.15	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	F	T	2.76	SGA for weight and length	47	33.5	1.42	
67	07-09-2023	7182776	B/O PREMA RUDRAGOUD	39WKS	22	No	Urban	3	No	3	<1 Year	25	Not done	5.35	Subclinical	day0	VACCUM ASSISTED VAGINAL DELIVERY	Tactile stimulation	7	9	F	T	2.8	AGA	47	32	10.2	
68	07-09-2023	10004785	B/O VISHRANTI PRAMOD	40WKS 5DAYS	23	Yes	Rural	2	No	3	<1 Year	25	Not done	2.3	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	F	T	2.7	SGA for weight and length	46	33	1.37	
69	10-09-2023	10005917	B/O VAISHNAVI SHANKAR	37WKS 2DAYS	28	Yes	Rural	2	No	1	<1 Year	50	Not done	3.4	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.5	AGA	46	33	2.04	Hyperbilirubinemia
70	12-09-2023	10006367	B/O POONAM ARAVIND	39WKS	19	Yes	Urban	1	Yes	3	<1 Year	25	Not done	1.95	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3.1	AGA	48	35	0.92	Hyperbilirubinemia
71	11-09-2023	7187353	B/O SAJIDA AFNAN	39WKS 3DAYS	32	Yes	Urban	1	No	3	<1 Year	50	Not done	4.46	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.5	SGA for weight and length	46	33.1	6.35	
72	09-09-2023	10005631	B/O SAVITA PRAMOD PATIL	36WKS 5DAYS	23	No	Rural	2	No	1	<1 Year	25	revision done	1.11	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	M	MLPT	3.4	AGA	48	34	0.53	
73	12-09-2023	10005636	B/O ANITA SANTOSH	29WKS 3DAYS	24	Yes	Rural	1	No		1-5 Years	50		2.03	Subclinical	day0	NVD	No Resuscitation	7	9	F	VPT	2.7	SGA for weight	47	33.6	4.5	
74	08-09-2023	10005528	B/O SUPRITA RAMESH	38WKS 4DAYS	23	Yes	Rural	3	No	3	<1 Year	25	Not done	1.22	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.45	SGA for weight and length	44	32.1	1.22	Hyperbilirubinemia
75	12-09-2023	10005431	B/O PRIYANKA KHOT	40WKS 2DAYS	20	Yes	Urban	3	Yes	3	<1 Year	50	Not done	5.73	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.8	SGA for weight and length	47	35	2.91	
76	13-09-2023	10006360	B/O KAVERI CHIDANAND	39WKS 1DAY	25	Yes	Urban	1	No		>5 Years	100		2	Subclinical	day0	LSCS- Emergency	Tactile stimulation	6	8	F	T	3	AGA	48	33.2	1.23	Hyperbilirubinemia
77	07-09-2023	10005426	B/O POOJA RAMALING	37WKS3DAYS	22	No	Rural	2	No	3	<1 Year	50	Not done	1.85	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.6	AGA	45	32.1	1.5	
78	06-09-2023	10004468	B/O KOMAL AKSH	39WKS 6DAYS	30	Yes	Rural	4	No	1	<1 Year	50	Not done	6.18	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.6	AGA	51	35.2	0.63	
79	05-09-2023	10004781	B/O POOJA HIREMATH	39WKS 6DAYS	26	Yes	Rural	1	No		1-5 Years	50		3.66	Subclinical	day0	NVD	No Resuscitation	7	8	M	T	3	AGA	50	35	2.14	
80	04-09-2023	10004766	B/O RASEEDA NADAF	37WEEKS	25	Yes	Rural	3	Yes	1	<1 Year	25	Not done	2.02	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	F	T	2.77	AGA	47	32.5	8.31	
81	06-09-2023	10004788	B/O KURANI JYOTI	34WKS 3DAYS	21	Yes	Rural	3	No	1	<1 Year	50	revision done	3.65	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	2.66	AGA	45	32.2	7.58	Hyperbilirubinemia
82	04-09-2023	10004681	B/O POOJA VINAYAK	38WKS	26	No	Urban	1	No	3	<1 Year	75	Not done	13	Overt	day0	LSCS- Emergency	No Resuscitation	7	9	F	T	2.6	AGA	45	32	0.39	
83	09-09-2023	10005378	B/O SNEHA JINESH	40WKS	24	Yes	Rural	2	No	3	<1 Year	25	Not done	1.83	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3	AGA	49	34	2.4	
84	04-09-2023	7184043	B/O ARATI ANANT	38WKS 4DAYS	22	Yes	Rural	3	No	1	<1 Year	25	Not done	2.14	Subclinical	day3	LSCS- Elective	Tactile stimulation	7	9	F	T	2.65	AGA	45	32.2	2.1	

85	06-09-2023	10005106	B/O SHUBADA SHINDE	39WKS 2DAYS	20	Yes	Rural	2	Yes		1-5 Years	50		1.68	Subclinical	day0	NVD	No Resuscitation	6	9	F	T	2.45	SGA for weight and length	46	32.4	1.52	
86	04-09-2023	10004652	B/O RESHMA UMESH	40WKS	25	Yes	Urban	1	No	3	<1 Year	25	Not done	1.77	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.19	AGA	51	34.4	0.38	Hyperbilirubinemia
87	02-09-2023	7184053	B/O PRATIKSHA MALLAPPA	40WKS	33	No	Rural	1	Yes	3	<1 Year	25	Not done	1.26	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	F	T	3.38	AGA	49	35	2.34	
88	31-08-2023	10003204	B/O BHUVANESHWARI	37WKS 2DAYS	20	Yes	Urban	3	No	3	<1 Year	25	Not done	2.39	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	F	T	3.2	AGA	50	33.6	0.54	
89	01-09-2023	10003747	B/O ROOPA IRANNA	40WKS 3DAYS	27	Yes	Urban	2	No	3	<1 Year	50	Not done	2.57	Subclinical	day0	VACCUM ASSISTED VAGINAL DELIVERY	No Resuscitation	7	9	M	T	3	SGA for weight	48	34	3.14	
90	31-08-2023	10003762	B/O NANDASHREE YELLAPPA	36WKS6DAYS	29	Yes	Rural	1	No	1	<1 Year	50	Not done	5.75	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.2	SGA for weight and length	45	32	1.35	
91	25-08-2023	7110087	B/O KAVITA VINOD	37WKS 1DAY	33	Yes	Urban	2	No		1-5 Years	50		2.5	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3	AGA	50	34	2.34	Hyperbilirubinemia
92	25-08-2023	10002329	B/O LAXMI BASAVARAJ	39WKS 6DAYS	28	No	Urban	2	No		1-5 Years	50		2.05	Subclinical	day0	LSCS- Emergency	Tactile stimulation	7	9	F	T	3.2	AGA	49	34	2.16	
93	01-09-2023	10003954	B/O ASHWINI ANIL	40WKS 1DAY	21	Yes	Urban	2	Yes	3	<1 Year	100	Not done	3.56	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.7	SGA for weight and length	47.5	33.4	1.34	
94	31-08-2023	10003735	B/O KOMAL MAHADEV	37WKS 3DAYS	26	Yes	Rural	1	No	1	<1 Year	50	Not done	8.04	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.6	AGA	48	33	2.3	
95	29-08-2023	7176696	B/O NANDINI KIRAN	40WKS 2DAYS	33	Yes	Urban	1	No	3	<1 Year	25	Not done	1.87	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	M	T	3	SGA for weight	49	35	4.97	
96	31-08-2023	7176100	B/O SAYLI MANOJ	37WKS 6DAYS	25	No	Urban	1	No	3	<1 Year	25	Not done	1.73	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	F	T	2.7	AGA	48	33.6	0.54	Hyperbilirubinemia
97	28-08-2023	10003022	B/O POOJA VASAV	39WKS 5DAYS	32	Yes	Rural	2	No		>5 Years	125		3.41	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.9	AGA	48	34	2.6	
98	01-10-2023	100010154	B/O SNEHA SHIVARAJ	39WKS 3DAYS	26	Yes	Urban	3	No	3	<1 Year	25	Not done	2.04	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	F	T	2.7	SGA for weight and length	46	34	0.92	
99	17-09-2023	7190601	B/O MAITRA RAYAPPA	31WKS 1DAY	28	Yes	Rural	2	Yes	1	<1 Year	25	revision done	3.9	Subclinical	day0	LSCS- Elective	No Resuscitation	5	8	F	VPT	1.22	AGA	39	27	5.24	
100	13-09-2023	7189769	B/O PURNIMA SURESH	37WKS 1DAY	21	Yes	Rural	2	No	3	<1 Year	50	Not done	3.1	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	F	T	2.47	AGA	46	33	21	Hyperbilirubinemia
101	10-09-2023	10005957	B/O NIKITHA CHANDRAKANTH PATIL		34	No	Rural	2	No	3	<1 Year	25	Not done	1.82	Subclinical	day0	NVD	No Resuscitation	6	8	M	MLPT	2.7	AGA	47	35	20.8	
102	24-07-2023	1204755	B/O BHARATI MAHANTESH	39WKS	26	Yes	Rural	3	No	1	<1 Year	50	Not done	5.53	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	F	T	3.4	AGA	49	34.8	2.1	
103	25-07-2023	1204732	B/O ARCHANA MANJUNATH	37WKS 5DAYS	27	Yes	Rural	2	No		1-5 Years	100		2	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.1	AGA	49	34	1.8	
104	25-07-2023	1205178	B/O SUDHA BHIMAPPA	38WKS 5DAYS	29	Yes	Urban	2	Yes	2	<1 Year	37.5	Not done	5.7	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	M	T	2.84	AGA	48	33.1	2.3	
105	26-07-2023	1204703	B/O KAVERI RAYAPPA	38WKS 1DAY	21	Yes	Rural	3	No	3	<1 Year	50	Not done	4.79	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.8	AGA	47	35	2.6	Hyperbilirubinemia
106	23-07-2023	1204700	B/O RANJITA JAVANAPPA	36WKS 5DAYS	21	No	Urban	1	No	3	<1 Year	25	Not done	1.37	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.86	AGA	47.5	33.5	1.6	
107	23-07-2023	1204746	B/O MANISHA DNANESHWAR	38WKS 1DAY	27	Yes	Urban	3	No	1	<1 Year	50	Not done	1.38	Subclinical	day0	NVD	Tactile stimulation	7	9	F	T	3.18	AGA	48	33.5	3.2	
108	24-07-2023	1204673	B/O NAZIYA ABDUL	39WKS	31	Yes	Urban	4	No	2	<1 Year	25	Not done	3.7	Subclinical	day0	NVD	No Resuscitation	6	8	M	T	2.9	AGA	48.5	34	2.1	
109	20-07-2023	1204022	B/O SAVITA MUTAKEKAR	38WKS 6DAYS	24	Yes	Urban	3	Yes	3	<1 Year	50	Not done	1.75	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.7	SGA for weight	48	32.5	9.25	
110	17-05-2023	1188878	B/O MEGHA LOKESH	39WKS 5DAYS	25	Yes	Urban	3	No		1-5 Years	75		4	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	M	T	3.35	AGA	48	33.5	2.3	Hyperbilirubinemia
111	23-06-2023	1197510	B/O SUVARNA BASAVARAJ	40WKS 1DAY	28	No	Urban	2	No	3	<1 Year	25	Not done	3.49	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	M	T	2.9	SGA for weight and length	47.5	33	1.96	
112	14-07-2023	1202919	B/O ARCHANA PAPARAM	39WKS 5DAYS	20	Yes	Urban	3	No	1	<1 Year	50	Not done	2.94	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3	AGA	48	35.5	2.3	
113	17-07-2023	1203443	B/O SHAFAKHANU BEGAUM	36WKS 3DAYS	22	Yes	Urban	2	No		1-5 Years	37.5		3.2	Subclinical	day0	LSCS- Elective	Tactile stimulation	7	9	M	MLPT	2.7	AGA	47	32.5	3.2	
114	10-06-2023		B/O LAXMI YELLAPPA	28WKS 3DAYS	27	Yes	Rural	2	Yes	3	<1 Year	75	Not done	2.1	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	M	VPT	1.2	AGA	36	27	2.6	RDS,HYPERBILIRUBINEMIA
115	30-09-2023	100010123	B/O LAXMI N PATIL	40WKS 2DAYS	30	Yes	Rural	2	No	2	<1 Year	25	Not done	1.64	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.2	AGA	50	35.6	1.56	
116	15-09-2023	10006792	B/O SNEHA MILAPPA	37WKS 1DAY	30	No	Rural	2	No	3	<1 Year	75	Not done	4.68	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	49	34.5	6.47	Hyperbilirubinemia
117	25-09-2023	10008993	SONALI SUDHIR	37WKS 6DAYS	33	Yes	Urban	1	No	1	<1 Year	50	revision done	3.61	Subclinical	day0	NVD	Tactile stimulation	7	9	M	T	2.9	AGA	47.5	33.6	4.14	
118	30-09-2023	10010050	B/O TWINKLE PADMARAJ	37WKS 6DAYS	25	Yes	Rural	1	No	3	<1 Year	75	Not done	2.37	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	M	T	3.3	AGA	49	33	2.6	
119	30-09-2023	10010244	B/O JYOTI SHANKAR	37WKS	32	Yes	Urban	4	No	3	<1 Year	25	Not done	0.69	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.8	AGA	47	34	6.11	
120	01-10-2023	7207279	B/O JAYASHREE BABU	38WKS	26	No	Urban	2	Yes	1	<1 Year	25	Not done	5	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.7	AGA	47	33.5	6.1	Hyperbilirubinemia
121	30-09-2023	10010074	B/O SHOBA BASAVARAJ	37WKS	28	Yes	Rural	2	No	3	<1 Year	25	Not done	2.02	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.3	SGA for weight and length	46	32	0.71	
122	04-10-2023	10010781	B/O SRUSHTI NIRANJAN	37WKS 1DAY	21	Yes	Urban	2	No	3	<1 Year	25	Not done	2.02	Subclinical	day0	LSCS- Elective	Bag & mask ventilation	6	9	F	T	2.45	SGA for weight	46	32	3.73	
123	04-10-2023	100010844	B/O SNEHA RAMAKRISHNAN	38WKS 5DAYS	34	Yes	Urban	4	No	2	<1 Year	25	revision done	3.6	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	F	T	2.99	AGA	48	33	2.63	
124	06-10-2023	10011130	B/O VAISHALI KANABARKAR	36WKS 6DAYS	26	No	Rural	3	No		1-5 Years	50		2.89	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	M	MLPT	2.9	AGA	47	34	1.99	
125	06-10-2023	10011203	B/O RASHMI BASAVARAJ	40WKS 3DAYS	27	Yes	Rural	1	No	1	<1 Year	25	Not done	4	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.8	AGA	51	35.5	1.69	Hyperbilirubinemia
126	07-10-2023	10011627	B/O PUSHPA CHANNABASAYYA	38WKS 1DAY	29	Yes	Rural	1	Yes	3	<1 Year	75	Not done	4.19	Subclinical	day0	NVD	Bag & mask ventilation	7	9	F	T	2.7	AGA	46	33	1.99	
127	05-10-2023	10010927	B/O SWARA SWAPNESH DALVI	37WKS 6DAYS	21	Yes	Urban	3	No	3	<1 Year	25	Not done	3.89	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	3	AGA	49	33	11.5	
128	08-10-2023	10011655	B/O SANJANA AJITH	39WKS 5DAYS	21	Yes	Rural	3	No		1-5 Years	50		1	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3.1	AGA	49	34.5	9.46	
129	04-10-2023	10010893	B/O SNEHA PRATAMESH	38WKS 3DAYS	27	Yes	Rural	2	No	1	<1 Year	25	Not done	1.1	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	48	33.6	1	Hyperbilirubinemia
130	26-10-2023	10015850	B/O VEENA JAGADISH	39WKS 3DAYS	31	Yes	Rural	1	No	3	<1 Year	25	Not done	3.08	Subclinical	day0	LSCS- Elective	Bag & mask ventilation	7	9	F	T	4.25	LGA	51	35	0.87	
131	26-10-2023	7231906	B/O SABNAZ SHOHEB	39WKS 5DAYS	25	No	Urban	3	No		1-5 Years	62.5		2.17	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.6	SGA for weight and length	46	33	0.71	

132	23-10-2023	10015869	B/O RUKMINI SHANKARGOUDA	37WKS 5DAYS	23	Yes	Rural	3	Yes	3	<1 Year	25	Not done	2.33	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.8	AGA	47	34	1.65	HYPERBILIRUBINEMIA
133	23-10-2023	10015870	B/O VAISHANAVI ABHISHEK	38WKS 5DAYS	23	Yes	Rural	1	No		1-5 Years	50		1.51	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.7	SGA for weight	47.5	33.8	5.71	
134	24-10-2023	10015609	B/O ANNAPURNA RAJESH	38WKS	25	Yes	Urban	2	No		>5 Years	100		1.57	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.43	AGA	50	35	3.4	
135	21-10-2023	10015233	B/O SHARADA YUVARAJ KUMAR	40WKS 3DAYS	33	Yes	Rural	4	No	1	<1 Year	25	revision done	3.66	Subclinical	day0	LSCS- Emergency	Bag & mask ventilation	7	9	M	T	3	SGA for weight	49	35	1.03	HYPERBILIRUBINEMIA
136	21-10-2023	10014983	B/O UMA SHIVAPPA	38WKS 1DAY	25	Yes	Urban	1	No	3	<1 Year	25	Not done	1.8	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	M	T	2.9	AGA	47.5	32.7	1.91	
137	24-10-2023	10015386	B/O MRUNALI KARADI	36WKS 3DAYS	32	Yes	Urban	2	No		>5 Years	112.5		4.83	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.9	AGA	47	34.5	5.17	
138	27-10-2023	7168842	B/O AMRUTA PRANAY	39WKS	26	Yes	Rural	1	No	3	<1 Year	50	Not done	1.28	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3	AGA	48	34.2	0.7	
139	25-10-2023	10015744	B/O SANA MALLIKARJUN	41WKS	28	Yes	Rural	3	No	1	<1 Year	25	Not done	3.02	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3.6	AGA	52	35.4	3.37	
140	29-10-2023	10016479	B/O AIMAN ARJUN	39WKS 5DAYS	21	Yes	Urban	3	Yes	3	<1 Year	12.5	Not done	2.56	Subclinical	day0	LSCS- Elective	Bag & mask ventilation	7	9	F	T	2.7	SGA for weight and length	47	32.4	1.62	
141	28-10-2023	1005985	B/O REKHA SURESH	34WKS 4DAYS	34	Yes	Urban	1	No	1	<1 Year	12.5	Not done	2.06	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	F	MLPT	1.65	SGA for weight and length	41	30.2	0.44	HYPERBILIRUBINEMIA
142	15-09-2023	10006732	B/O MAITRA RAYAPPA	31WKS 1DAY	26	Yes	Urban	3	No	1	<1 Year	25	Not done	3.9	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	F	VPT	1.22	AGA	40	29	5.91	DS,LOS,HYPERBILIRUBINEMIA
143	14-10-2023	1003376	B/O PRAVEEN KALLI	33WKS 2DAYS	27	Yes	Urban	2	No	1	<1 Year	12.5	revision done	3.21	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	1.7	SGA for weight	43	32	2.4	HYPERBILIRUBINEMIA
144	03-11-2023	7256280	B/O MAHEK MURTAJA	37WKS	29	Yes	Urban	2	No	1	<1 Year	75	Not done	4.25	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.8	AGA	49.1	32.5	0.81	Hyperbilirubinemia
145	04-11-2023	10017568	B/O ARSHIYA AKEEL	38WKS 3DAYS	21	Yes	Rural	3	No	2	<1 Year	25	Not done	0.98	Subclinical	day0	NVD	Bag & mask ventilation	7	9	M	T	2.82	AGA	49	34	2.6	
146	03-11-2023	10017085	B/O KAVERI SHIVANAND	38WKS 3DAYS	21	Yes	Urban	3	No	1	<1 Year	12.5	Not done	4.1	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.8	SGA for weight	49	34	3.56	
147	23-10-2023	7227215	B/O SONIYA PRAMOD	37WKS	27	Yes	Urban	1	No	1	<1 Year	25	Not done	4.84	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	M	T	2	SGA for weight	47	33.5	2.14	
148	30-10-2023	7234069	B/O VEDIKA LAVANYA	33WKS 1DAY	31	No	Rural	4	No		>5 Years	50		3.28	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	1.3	SGA for weight and length	38	29	7.89	
149	09-11-2023	10018673	B/O POORNIMA ANAND	37WKS 5DAYS	25	Yes	Urban	2	Yes		>5 Years	150		0.82	Subclinical	day0	NVD	Bag & mask ventilation	7	9	M	T	2.5	SGA for weight and length	46	31.9	2.4	
150	07-11-2023	10018282	B/O SUPRIYA SANDEEP	38WKS 3DAYS	27	Yes	Rural	2	No	1	<1 Year	12.5	revision done	2.86	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.7	SGA for weight	48	33.2	0.8	
151	07-11-2023	10018146	B/O MOHINI AMOL	37WKS 4DAYS	24	Yes	Rural	1	No	1	<1 Year	25	Not done	5.37	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.1	AGA	47.5	33	15.98	
152	09-11-2023	10018672	B/O SMITA SURAJ	37WKS	23	Yes	Urban	2	No	1	<1 Year	50	Not done	7.09	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.7	AGA	47	33	4.79	Hyperbilirubinemia
153	09-11-2023	10019218	B/O MADHURI VIKAS	38WKS 5DAYS	22	No	Urban	1	No	2	<1 Year	25	Not done	3.28	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.8	AGA	48	33.2	2.5	
154	09-11-2023	10018697	B/O PREMA SADANAGOUDA	38WKS	33	Yes	Urban	4	No	1	<1 Year	50	Not done	4.21	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.23	AGA	52	34	3.56	
155	10-11-2023	10019126	B/O ROOPA BIRADAR	39WKS 2DAYS	25	Yes	Urban	1	No		1-5 Years	50		2.48	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.04	AGA	50	33.7	2.12	
156	13-11-2023	10019208	B/O ROOPA SIDLING	38WKS 6DAYS	32	Yes	Urban	4	No		1-5 Years	75		2.65	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.2	AGA	51.6	35	9.04	
157	12-11-2023	10019621	B/O AMRUTHA ANAND	37WKS 5DAYS	26	Yes	Urban	3	No	1	<1 Year	50	Not done	0.5	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	F	T	3.3	AGA	52	33	22.6	
158	14-11-2023	10019720	B/O SWARANJALI SUNIL	34WKS 5DAYS	28	Yes	Rural	1	No	1	<1 Year	25	revision done	3.2	Subclinical	day0	NVD	No Resuscitation	7	9	M	MLPT	1.7	SGA for weight	45	32	1.46	Hyperbilirubinemia
159	14-11-2023	10019948	B/O TASLIM IMRAN	36WKS 3DAYS	21	Yes	Urban	1	No	1	<1 Year	25	Not done	3.6	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.1	SGA for weight	46	31	0.53	
160	22-07-2023	1204174	B/O HEENA KOUSER	39WKS 6DAYS	34	Yes	Rural	1	No	1	<1 Year	25	Not done	3.06	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3	AGA	48	34	2.1	
161	20-07-2023	1204202	B/O MAHEK AMAN	38WKS 5DAYS	26	Yes	Urban	3	Yes		1-5 Years	75		1.9	Subclinical	day0	NVD	No Resuscitation	6	9	M	T	2.9	AGA	47.5	33	2.6	
162	24-07-2023	1203942	B/O BIBI BATEER	37WKS 2DAYS	27	Yes	Urban	3	No	1	<1 Year	25	Not done	1.49	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.7	AGA	46.5	33	2.4	
163	27-07-2023	1205276	B/O GEETA SHIVANAND	35WKS 2DAYS	29	Yes	Rural	4	No	1	<1 Year	25	revision done	3.9	Subclinical	day0	NVD	No Resuscitation	5	7	M	MLPT	3.3	LGA	52	34	2.1	
164	26-07-2023	1205495	B/O PRIYANKA SANDEEP	39WKS 1DAY	21	Yes	Rural	3	No	2	<1 Year	50	revision done	2.6	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.6	SGA for weight	47	33.5	1.9	
165	23-07-2023	1204727	B/O SANGEETA APPU	39WKS	21	Yes	Rural	3	No	2	<1 Year	50	Not done	3.9	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.6	AGA	51	34	17.3	Hyperbilirubinemia
166	24-07-2023	1208687	B/O YOGITA AMITAKOMAL	36WKS 3DAYS	27	Yes	Urban	3	Yes	1	<1 Year	25	Not done	1.61	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.8	AGA	48	33.1	3.31	
167	27-07-2023	1204752	B/O YASEENA BHANU	37WKS	31	Yes	Urban	1	No	2	<1 Year	25	Not done	1.56	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.7	AGA	47.5	33.5	2.1	
168	29-07-2023	1205516	B/O HEMA PRAMOD	39WKS 5DAYS	20	Yes	Rural	2	No	3	<1 Year	25	Not done	3.69	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	F	T	3.2	AGA	48	34	0.9	
169	02-08-2023	1206842	B/O REKHA BHAVAKU	38WKS 5DAYS	28	Yes	Rural	1	No		1-5 Years	50		2.1	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.7	SGA for weight and length	47	33.2	1.8	
170	03-08-2023	1207133	B/O SHIVANI VIKRAM	40WKS 1DAY	20	Yes	Rural	2	No	3	<1 Year	50	Not done	3.8	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.1	AGA	50	33.6	1.4	
171	04-08-2023	1207419	B/O HARSHA ESWAR	37WKS 1DAY	26	Yes	Urban	1	Yes		1-5 Years	50		4.7	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.75	AGA	48	33.5	1.92	
172	03-08-2023	1207132	B/O SHASHIKALA SUDHAKAR	40WKS 4DAYS	25	Yes	Rural	2	No	1	<1 Year	50	Not done	2.13	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.8	SGA for weight	50	33.6	1.4	
173	05-08-2023	1207772	B/O ROKKIYA SAGAR	36WKS 6DAYS	29	Yes	Urban	1	No		1-5 Years	50		2	Subclinical	day0	LSCS- Emergency	No Resuscitation	6	9	M	MLPT	3.3	AGA	49	34	2.42	
174	05-08-2023	1207829	B/O SUPRITA ANGOLKAR	38WKS 2DAYS	25	Yes	Rural	3	No	1	<1 Year	25	Not done	1.11	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.9	AGA	47	32.6	1.6	
175	04-08-2023	1206618	B/O SHIVANI VIKRAM	40WKS 1DAY	23	Yes	Rural	1	No		1-5 Years	50		1.78	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.1	AGA	48	35	1.31	
176	07-08-2023	1207868	B/O SIMRAN MADASSAR	38WKS	27	Yes	Urban	2	Yes		1-5 Years	75		2.1	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	50	34	1.4	
177	08-08-2023	1207811	B/O KAVERI UDAY	39WKS 3DAYS	27	Yes	Urban	2	No	2	<1 Year	25	Not done	3.8	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	F	T	2.7	SGA for weight	48	33.5	1.6	HYPERBILIRUBINEMIA
178	05-08-2023	1207183	B/O SHIVANI VIKRAM	40WKS 1DAY	28	Yes	Urban	2	No	3	<1 Year	50	Not done	1.44	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	M	T	3.1	AGA	50	34.5	3.2	
179	11-08-2023	1208594	B/O FATIMABAI JIVAMALE	37WKS 2DASY	22	Yes	Rural	2	No	1	<1 Year	50	revision done	3.86	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.3	AGA	49	33.8	2.1	
180	13-08-2023	1209704	B/O AISHWARYA PRASAD	40WKS	28	Yes	Rural	1	No	3	<1 Year	25	Not done	1.34	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	M	T	3.4	AGA	52	34.5	2.6	

181	11-08-2023	6956588	B/O SHWETA LOHAR	35WKS 4DAYS	29	Yes	Urban	1	No		1-5 Years	75		1.44	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	2.6	AGA	47	33	4.2	
182	08-08-2023	1206682	B/O SHRUTI GOPAL	36WKS 3DAYS	25	Yes	Urban	3	No	3	<1 Year	25	Not done	2.6	Subclinical	day0	NVD	No Resuscitation	6	8	F	MLPT	2.5	AGA	46.5	31.7	0.73	
183	06-08-2023	1207462	B/O HARSHA PRADEEP	37WKS 1DAY	26	Yes	Rural	1	No		>5 Years	75		2.1	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.75	AGA	50	34.4	1.24	
184	19-08-2023	1205743	B/O SAVITA SHANKARGOUDA	36WKS 4DAYS	33	Yes	Urban	3	No		1-5 Years	50		1.44	Subclinical	day0	LSCS- Emergency	No Resuscitation	7	9	M	MLPT	2.6	AGA	47	33.4	5.2	
185	20-08-2023	7165319	B/O AKSHATA SANTOSH	34WKS 4DAYS	25	Yes	Rural	3	No	3	<1 Year	75	Not done	3.5	Subclinical	day0	NVD	No Resuscitation	7	9	F	MLPT	2.1	AGA	42	30	5.9	
186	19-08-2023	10000845	B/O SHIREEN SIKANDAR	38WKS 2DAYS	32	Yes	Rural	1	No	1	<1 Year	25	Not done	4.4	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.7	AGA	47	33	2.73	
187	15-08-2023	7162596	B/O JYOTI PRAVEEN	38WKS 2DAYS	26	Yes	Rural	2	No		1-5 Years	75		0.72	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.8	AGA	51	34	0.6	
188	19-08-2023	10000532	B/O NAZMEEN LIYAKAT	38WKS 2DAYS	28	Yes	Rural	1	No		1-5 Years	75		2.86	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.3	SGA for weight	45	33	1.65	
189	20-08-2023	10000773	B/O SMITA SHRIDAR	40WKS	21	Yes	Rural	3	Yes	3	<1 Year	50	Not done	2.5	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3	AGA	50	35.2	3.6	
190	20-08-2023	10000603	B/O YASHODA UDAY	40WKS	34	Yes	Urban	1	No	2	<1 Year	25	Not done	3.7	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.7	SGA for weight and length	46	34	1.79	
191	18-08-2023	10000719	B/O NALINI HARIKRISHANAN	39WKS 6DAYS	26	Yes	Urban	2	No	3	<1 Year	25	Not done	1.65	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3.3	AGA	49	34.2	2.29	
192	19-08-2023	7165007	B/O SONU VINAYAK	40WKS 2DAYS	27	Yes	Urban	1	No		1-5 Years	50		0.42	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	50	33.5	11	
193	11-08-2023	10002023	B/O SHWETAJAYA	37WKS 5DAYS	29	Yes	Rural	1	No		>5 Years	75		2.56	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.8	AGA	50	34.2	4.5	
194	23-08-2023	10001482	B/O SAMIKSHA YOGESHWAR	39WKS 1DAY	21	Yes	Urban	3	No	1	<1 Year	25	Not done	4	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.1	SGA for weight and length	46	33	0.42	
195	18-08-2023	7164964	B/O RENUKA DHARMA	36WKS 4DAYS	21	Yes	Rural	3	No		1-5 Years	50		3.99	Subclinical	DAY0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	2	SGA for weight	46	32	3.46	
196	20-08-2023	7165022	B/O PRIYANKA NAGESH	40WKS 1DAY	27	Yes	Rural	3	No	3	<1 Year	25	Not done	3.4	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.66	SGA for weight and length	47	33.2	5.81	
197	29-08-2023	7176750	B/O SAVITA PRAKASH	39WKS 5DAYS	31	Yes	Urban	1	No	3	<1 Year	50	Not done	14.8	Overt	day0	LSCS- Emergency	No Resuscitation	7	9	F	T	2.8	AGA	47	33.5	7.25	
198	13-02-2024	10039961	B/O VIDYA ANKIT	39WKS 4DAYS	33	Yes	Urban	2	No	1	<1 Year	25	Not done	3.7	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.14	AGA	49	34	3.1	
199	17-02-2024	6286297	B/O AKSHATA RAIKAR	40WKS 2DAYS	25	Yes	Urban	1	No		1-5 Years	100		2.09	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.84	SGA for weight	48	35	2.62	
200	23-02-2024	10042382	B/O RASHMI HEBBALE	37WKS 4DAYS	32	Yes	Urban	1	Yes	3	<1 Year	75	Not done	7.01	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.6	AGA	46	34.5	3.5	
201	07-02-2024	7335274	B/O JYOTI RAVINDRA	37WKS 6DAYS	26	Yes	Urban	3	No	3	<1 Year	50	Not done	1.56	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.8	AGA	48	34	0.4	
202	05-02-2024	7335394	B/O AKEELA MANJUNATH	40WKS 6DAYS	28	Yes	Rural	1	No	3	<1 Year	75	Not done	2.59	Subclinical	day0	VACCUM ASSISTED VAGINAL DELIVERY	No Resuscitation	7	9	M	T	2.9	SGA for weight and length	47.5	33.5	3.03	
203	01-02-2024	7325310	B/O KHUSBOBANU SHOIAB	38WKS 3DAYS	21	Yes	Rural	1	No	1	<1 Year	50	revision done	2.4	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.7	SGA for weight	48	34	2.25	
204	05-02-2024	7335041	B/O ASMITA DNYANESHWAR	40WKS 1DAY	34	Yes	Rural	3	No	3	<1 Year	75	Not done	4.57	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.1	AGA	49	34	1.54	
205	28-01-2024	7325971	B/O SHAGUN KAPIL	37WKS 3DAYS	26	Yes	Rural	3	No	2	<1 Year	25	Not done	3.71	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.4	SGA for weight	47	33	1.02	
206	07-12-2023	10024586	B/O SAMEENA IMTIYAZ	40WKS 2DAYS	27	Yes	Urban	3	No	3	<1 Year	50	Not done	1.36	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.82	SGA for weight	48	33.2	2.98	
207	23-12-2023	10028601	B/O RENUKA GAJANAN	37WKS 5DAYS	29	Yes	Urban	1	No	3	<1 Year	25	Not done	4.26	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.7	AGA	48	34	1.22	
208	23-12-2023	10028667	B/O SNEHAL ABHIJEET	38WKS 6DAYS	21	Yes	Urban	1	No	1	<1 Year	25	Not done	4.14	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.24	AGA	50	35	3.63	
209	09-01-2024	10032064	B/O AKSHATA KABBURKAR	38WKS 5DAYS	21	Yes	Urban	1	No	3	<1 Year	25	Not done	3.59	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.6	AGA	47	34	1.6	
210	04-01-2024	7308083	B/O SHRIDEVI ANAND	34WKS 1DAY	27	Yes	Rural	1	No	3	<1 Year	25	Not done	1.88	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	2.1	AGA	46	32	2.69	
211	07-01-2024	7304609	B/O SUPRIYA SHRIDAR	38WKS 5DAYS	31	Yes	Urban	3	No	3	<1 Year	25	Not done	4.2	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.6	AGA	51	35	0.67	
212	08-01-2024	7307484	B/O LAXMI SURESH	36WKS 5DAYS	30	Yes	Rural	1	No	1	<1 Year	50	Not done	5.23	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	M	MLPT	2.9	AGA	48	34	0.48	
213	19-12-2023	10030687	B/O MAHESHWARI IRAPPA	36WKS	23	Yes	Urban	1	Yes		1-5 Years	100		1.36	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	3.4	LGA	49	33.5	4.54	
214	08-01-2024	7305257	B/O BASAMMA PRAKASH	38WKS 2DAYS	21	Yes	Urban	2	No		1-5 Years	100		0.65	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.2	AGA	49	34	4.89	
215	10-01-2024	7307513	B/O FARHANA KOWAD	39WKS 2DAYS	26	Yes	Rural	2	No	2	<1 Year	87.5	Not done	3.6	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.5	AGA	51	35	4.12	
216	07-01-2024	10031424	B/O SHRUTI PRASHANT	38WKS 4DAYS	30	Yes	Urban	2	No	2	<1 Year	50	Not done	3.1	Subclinical	day0	LSCS- Elective	No Resuscitation	6	9	M	T	3.35	AGA	50	35	4.33	
217	06-02-2024	10038924	B/O SUSHMA SANTOSH	38WKS 6DAYS	28	Yes	Urban	3	No	3	<1 Year	50	Not done	5.16	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3.52	AGA	49	34.5	0.99	
218	06-02-2024	10038329	B/O KEERTI RAGHAVENDRA	38WKS 6DAYS	21	Yes	Rural	1	No	3	<1 Year	25	Not done	2.6	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.3	AGA	49	34	8.92	
219	04-02-2024	10046325	B/O SANJANA HAVOL	40WKS	24	Yes	Urban	1	No	3	<1 Year	25	Not done	1.17	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.8	SGA for weight and length	47.5	33.6	2.1	
220	03-02-2024	10037900	B/O KOMAL BASAVARAJ	F	30	Yes	Rural	2	No		1-5 Years	50		2.5	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.65	AGA	47	33.5	3.8	
221	03-02-2024	10037954	B/O SHWETA PANDEY39WKS 4DAYS	39WKS 4DAYS	33	Yes	Urban	3	No	1	<1 Year	25	Not done	3.53	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.6	AGA	51	34.5	1.54	
222	03-02-2024	10038562	B/O NISHA YALIGEX	37WKS 2DAYS	25	Yes	Urban	2	No	3	<1 Year	50	Not done	2.68	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.7	AGA	47	33.6	3.5	
223	31-01-2024	7329466	B/O SHREEDEVI VISHWANATH	39WKS 5DAYS	32	Yes	Rural	1	No	3	<1 Year	75	Not done	7.04	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.2	AGA	49	34.5	1.24	
224	25-12-2023	7292229	B/O SUMANGALA UMESH	36WKS 6DAYS	26	Yes	Urban	3	No	3	<1 Year	50	Not done	3.3	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.28	SGA for weight	45	32.6	4.32	
225	21-12-2023	7291214	B/O SNEHAL ABHIJEET	38WKS 5DAYS	28	Yes	Rural	1	Yes		1-5 Years	12.5		4.14	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.24	AGA	49	34.6	3.63	
226	21-12-2023	7290814	B/O RENUKA GAJANAN	37WKS 4DAYS	21	Yes	Rural	2	No	1	<1 Year	25	revision done	4.26	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.7	AGA	48	33.7	1.22	
227	21-12-2023	7290444	B/O REKHA GANESHAPPA	36WKS 6DAYS	34	Yes	Urban	2	No	3	<1 Year	25	Not done	1.95	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.9	AGA	48.5	34	1.38	

228	19-12-2023	72890410	B/O MAHESHWARI IRAPPA	35WKS6DAYS	26	Yes	Urban	2	No		>5 Years	100		1.36	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	3.44	LGA	50	34.6	4.54	
229	16-12-2023	7285933	B/O RAFIYA TANEER	38WKS 2DAYS	27	Yes	Urban	1	No		>5 Years	75		1.12	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	M	T	2.9	AGA	48	34	2.95	
230	15-12-2023	10027361	B/O ASHA KALMATH	38WKS 1DAY	29	Yes	Urban	2	No	3	<1 Year	37.5	Not done	1.96	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.5	SGA for weight and length	46.5	34	2.58	
231	15-12-2023	7285390	B/ORESHMA PATIL	38WKS 1DAY	21	Yes	Rural	3	No	3	<1 Year	50	Not done	3.4	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.27	AGA	51.5	35	1.17	
232	15-12-2023	7284619	B/O AKSHATA BALAKRISHNA	38WKS6DAYS	21	Yes	Rural	2	No	3	<1 Year	25	Not done	3.14	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.6	SGA for weight	47	33.6	1.04	
233	13-12-2023	7345624	B/O SHANDA RAHUL	38WKS	27	Yes	Rural	3	No	1	<1 Year	25	Not done	3.26	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	F	T	3	AGA	49	34.2	3.5	
234	11-12-2023	10026168	B/O SNEHA SHIVAKUMAR	36WKS6DAYS	31	Yes	Urban	3	No	3	<1 Year	50	Not done	3.1	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.23	SGA for weight	46.5	33	9.3	LOS, HYPEERBILIRUBINEMIA
235	07-12-2023	10025162	B/O RAKSHITA SACHIN	38WKS 5DAYS	27	Yes	Rural	2	No		>5 Years	150		0.82	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.8	AGA	52	35.5	3.6	
236	07-12-2023	7275779	B/O SULBHA SANTOSH	35WKS 1DAY	24	Yes	Rural	3	No	3	<1 Year	25	Not done	4.2	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	1.7	SGA for weight and length	42	30	2.38	
237	01-12-2023	7269197	B/O SHRIDEVI GURUNATH	34WKS3DAYS	28	Yes	Rural	2	No	3	<1 Year	50	Not done	5.56	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.9	LGA	48.5	34	3.46	
238	30-11-2023	7268338	B/O AMBIKA SANTOSH	38WKS 3DAYS	23	Yes	Rural	3	No		1-5 Years	50		4.2	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.9	AGA	48	35	1.72	
239	29-11-2023	10023459	B/O BHUMIKA MAHESH	40WKS 4DAYS	28	Yes	Rural	3	No	1	<1 Year	125	Not done	4.87	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.1	AGA	49	34	2.52	
240	23-11-2023	10022341	B/O CHAITRA VINAYAK	37WKS	27	Yes	Rural	3	No	3	<1 Year	50	Not done	3.5	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.77	AGA	47	34	1.79	
241	21-11-2023	7257652	B/O NAUREIN MAHEBOOBALI	39WKS 2DAYS	21	Yes	Urban	2	No	3	<1 Year	25	Not done	3.3	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.2	AGA	50	34	3.46	
242	17-11-2023	7253955	B/O ASHWINI MANJUNATH	36WKS 6DAYS	23	Yes	Urban	3	No	3	<1 Year	50	Not done	3.51	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	3.6	LGA	51	35.2	1.32	
243	10-11-2023	7248016	B/O ANURADHA ABHIJEET	38WKS 3DAYS	22	Yes	Rural	2	No	1	<1 Year	25	Not done	4.28	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.7	AGA	52	35	10.4	TTNB
244	27-02-2024	7365794	B/O KEERTI NAGARAJ	38WKS 6DAYS	28	Yes	Urban	1	No	3	<1 Year	25	Not done	2.09	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.2	AGA	50	34.6	11.3	
245	27-02-2024	7365888	B/O UMASHREE MARUTI	38WKS 5DAYS	29	Yes	Urban	2	No	3	<1 Year	50	Not done	4.55	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	49.5	35	0.4	
246	01-03-2024	7370979	B/O AKSHATA SUNIL	38WKS 2DAYS	21	Yes	Rural	1	No	3	<1 Year	25	Not done	2.34	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.65	AGA	48	33.5	1.85	
247	02-03-2024	7372364	B/O SOUMYA SHATRUGNA	36WKS 6DAYS	23	Yes	Urban	1	No		1-5 Years	125		6.29	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	3	AGA	49	34.5	0.47	
248	05-03-2024	7373945	B/O SHRUTIKA MANOJ	37WKS 2DAYS	27	Yes	Urban	2	No		1-5 Years	50		0.34	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	2.5	SGA for weight	46	33	3.32	
249	09-03-2024	7378904	B/O SHAHANA MUZAFFAR	36WKS 5DAYS	20	Yes	Rural	3	No	1	<1 Year	12.5	Not done	4.7	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	3.3	AGA	51	34	1.73	
250	18-03-2024	10047323	B/O ADITI PUNIT	37WKS 2DAYS	22	Yes	Urban	2	No	3	<1 Year	25	Not done	1.76	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.06	AGA	48.5	34	0.48	TTNB
251	19-03-2024	7321781	B/O SNEHA VISHA	36WKS 1DAY	20	Yes	Urban	1	No	3	<1 Year	50	Not done	2.31	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.7	AGA	48	33.5	2.88	
252	25-02-2024	7362476	B/O SACHINA AJAY	37WKS4DAYS	30	Yes	Urban	1	No	3	<1 Year	50	Not done	6.42	Subclinical	day0	NVD	No Resuscitation	7	9	F	T	2.3	SGA for weight	45	31.5	4.62	
253	07-03-2024	7378596	B/O MADEENA MOHAMMED	38WKS	26	Yes	Rural	3	No		>5 Years	112.5		2.42	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3.27	AGA	49	34	1.52	
254	08-03-2024	7378736	B/O AQIB DESAI	39WKS 5DAYS	28	Yes	Urban	3	No	1	<1 Year	100	revision done	3.01	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.8	AGA	47	33.5	0.44	
255	20-02-2024	7353349	B/O HEENAIRANNA	36WKS 5DAYS	24	Yes	Urban	1	No	3	<1 Year	25	Not done	2.32	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	2.79	AGA	48	34	3.07	TTNB
256	23-11-2023	7261434	B/O NETRAVATI MANJUNATH	40WKS	26	Yes	Urban	2	No	3	<1 Year	25	Not done	2.72	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	49	34	7.84	
257	22-11-2023	7261445	B/O SOUMYA PRAVEEN	38WKS 1DAYS	20	Yes	Urban	1	No	3	<1 Year	50	Not done	1.28	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.01	AGA	48.5	34.6	1.37	
258	22-11-2023	10022195	B/O ANNAPURNA KADAGOUDA	38WKS 3DAYS	30	Yes	Urban	2	No	1	<1 Year	25	Not done	2.81	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.8	AGA	48	33.5	2.81	
259	22-11-2023	7260122	B/O KAVITA MANJUNATH	37WKS 5DAYS	21	Yes	Rural	1	No	3	<1 Year	25	Not done	2.02	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.3	SGA for weight	47	33.5	4.4	
260	20-11-2023	7258773	B/O RUKSAR BHANU	40WKS 1DAY	25	Yes	Urban	1	No	3	<1 Year	50	Not done	2.15	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.95	AGA	48.5	34	0.2	
261	19-11-2023	10021294	B/O MEENAZ	39WKS 6DAYS	25	Yes	Rural	1	No		1-5 Years	100		1.93	Subclinical	day0	NVD	No Resuscitation	7	9	M	T	3.5	AGA	51	35	2.4	TTNB
262	20-11-2023	7256416	B/O KEERTI SANTOSH	40WKS	21	Yes	Urban	1	No	3	<1 Year	50	Not done	1.17	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	3.08	AGA	50	34	0.6	
263	18-11-2023	7256261	B/O CHAITRA SUNIL	36WKS 6DAYS	20	Yes	Rural	2	No	3	<1 Year	25	Not done	1.87	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	2.3	SGA for weight	46.5	33	1.49	
264	15-11-2023	10020415	B/O SAVITA YARADETTI	36WKS 4DAYS	23	Yes	Rural	2	No	1	<1 Year	50	Not done	1.52	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	MLPT	2.9	AGA	48.5	34	3.2	
265	07-11-2023	7246343	B/O SHILPA ANAND	37WKS 5DAYS	24	Yes	Rural	1	No		1-5 Years	75		1.41	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.92	AGA	49	34	4.01	
266	03-11-2023	10018325	B/O RUPITA BALAGOUDA	40WKS	23	Yes	Urban	2	No	3	<1 Year	25	Not done	0.7	Subclinical	day0	LSCS- Elective	No Resuscitation	6	8	M	T	3.6	AGA	51	35	2.27	
267	02-11-2023	7264543	B/O SURAVI SAYYAM	36WKS 5DAYS	23	Yes	Urban	1	No	3	<1 Year	25	Not done	2.72	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	MLPT	2.66	AGA	47	33.5	3.2	
268	08-03-2024	7239080	B/O SANDEEP GADIVADDAR		23	Yes	Rural	2	No	3	<1 Year	25	Not done	1.31	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	VPT	2.7	AGA	48	33	0.88	
269	20-02-2024	7237829	B/O ZAINAB HUSNAIB	38WKS 4DAYS	20	Yes	Rural	3	No		1-5 Years	50		1.01	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3.36	AGA	49	34.5	0.64	
270	23-11-2023	7274613	B/O DIVYA PRADEEP	39WKS	29	Yes	Urban	3	No	1	<1 Year	25	Not done	2.67	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	48.5	34	4.1	
271	22-11-2023	7220620	B/O RAMYA BASALINGAPPA	37WKS 5DAYS	20	Yes	Rural	2	No	3	<1 Year	25	Not done	2.56	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	2.97	AGA	48.5	34	6.44	
272	22-11-2023	7254634	B/O DEEPA PATIL	37WKS	29	Yes	Urban	2	No	3	<1 Year	12.5	Not done	3.2	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	F	T	2.84	AGA	48	34	2.34	
273	22-11-2023	7256418	B/O DIVYA PRADEEP	39WKS	27	Yes	Urban	2	No	1	<1 Year	25	Not done	2.67	Subclinical	day0	LSCS- Elective	No Resuscitation	7	9	M	T	3	AGA	48.5	34	4.1	