

**HYPOTHYROIDISM IN PREGNANCY SCREEN OR NOT**Mary George<sup>1</sup>, Suja Mary George<sup>2</sup>, V. M. Jayasree Thankachi<sup>3</sup>**HOW TO CITE THIS ARTICLE:**

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**ABSTRACT: AIM:** To study the incidence of hypothyroidism in pregnancy and its effect on maternal and Fetal outcome. **METHOD:** 100 pregnant women who delivered in MOSC Medical college hospital during the study period August 2014 till February 2015 were evaluated for the study. TSH screening was done in first antenatal visit. Those patients with TSH levels  $>2.5$  mIU/L in first trimester and  $>3$  mIU/L in second and third trimester were supplemented with thyroid hormone. The proportion of hypothyroidism in pregnancy during the study period was calculated. Their obstetric outcome in terms of abortion, anemia, preterm delivery, preeclampsia and perinatal outcome in terms of low birth weight. Prematurity, NICU admission, neonatal TSH and hyperbilirubinemia were evaluated. **RESULTS:** The incidence of hypothyroidism in pregnancy was 6.23%. Maternal complications included Preterm delivery 10%, preeclampsia 8%, GDM-20%, anemia 14%, PPH 3%. Fetal complication included low birth weight 4%, Prematurity 10%, NICU admission 4%, Hyperbilirubinemia 8%, No Neonatal hypothyroidism. **CONCLUSION:** The incidence of hypothyroidism in pregnancy is found to be very high. By timely screening and supplementing thyroxin in patients with hypothyroidism maternal and fetal complication can be prevented, so routine screening of thyroid dysfunction is recommended in pregnancy.

**KEYWORDS:** Hypothyroidism. Incidence. Maternal outcome. Fetal outcome.

**INTRODUCTION:** Thyroid disorders constitute one of the most common endocrine disorders in pregnancy.<sup>1</sup> Subclinical hypothyroidism describes those patients with high TSH and normal thyroxin concentration with no specific symptoms or signs of thyroid dysfunction. Subclinical hypothyroidism affects 5% of population.<sup>2</sup> Casey et al<sup>3</sup> in their study identified 2.3% of subclinical hypothyroidism and identified a trend towards increased preterm delivery NICU admission and neonatal RDS among the newborns of women with subclinical hypothyroidism. Women with both overt and subclinical hypothyroidism are at increased risk of pregnancy related complication such as abortions, preeclampsia, preterm labour, placental abruption and PPH. Fetal complication include low birth weight babies, prematurity, fetal or neonatal hypothyroidism, growth retardation, stillbirth, neonatal hyperbilirubinemia and increased perinatal mortality.

**MATERIAL AND METHODS:** The study was conducted in the department of Obstetrics & Gynecology MOSC Medical College Kolenchery between August 2014 to February 2015. A total of 100 patients who delivered in MOSC Medical College were evaluated for the effect of hypothyroidism in pregnancy. All these patients were diagnosed as hypothyroidism in the antenatal clinics and were treated with thyroid hormone.

**INCLUSION CRITERIA:** All patients with singleton delivery.

**EXCLUSION CRITERIA:** Multiple pregnancy, pregestational diabetes, chronic hypertension.

Apart from detailed history & examination TSH was tested in all patients enrolled in the study.

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Reference range used in the study was based on guidelines of the American thyroid association 2011.<sup>5</sup> For the diagnosis and management of thyroid disease during pregnancy & postpartum. According to the guidelines if trimester- specific reference ranges for TSH are not available in the laboratory, the following reference ranges are recommended: first trimester, 0.1-2.5 micro IU/ml; second trimester; 0.2-3micro IU/ml the patients with hypothyroidism were treated and followed up till the termination of pregnancy. TSH was repeated after 6 wks and drug dosages titrated accordingly. Maternal outcome like abortion, preterm delivery, preeclampsia and fetal outcome like LBW, NICU admission, preterm delivery, neonatal hyperbilirubinemia, neonatal TSH, fetal distress were evaluated.

### RESULTS:

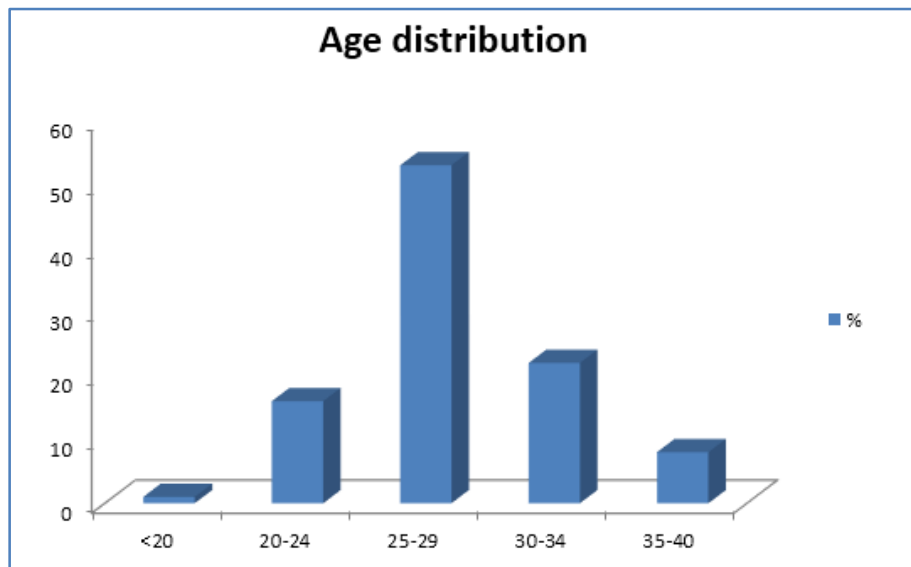
Total number of delivery-1575.

Number of hypothyroidism-100.

Incidence of hypothyroidism=6.3.

AGE DISTRIBUTION	CASE (n-100)
	%
<20	1
20-24	16
25-29	53
30-34	22
35-40	8

**TABLE 1: AGE DISTRIBUTION OF THE STUDY POPULATION**



**Fig. 1**

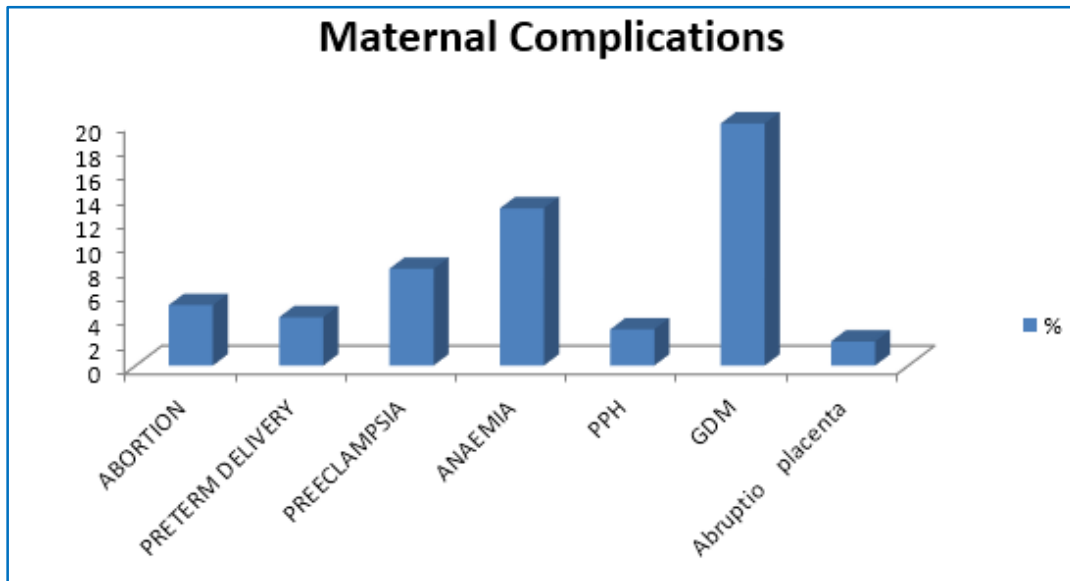
In the age group 25-29 there is increased incidence of hypothyroidism.

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Mean BMI of the study population-24.42.

MATERNAL COMPLICATION	CASE-n-100
	%
ABORTION	5
PRETERM DELIVERY	4
PREECLAMPSIA	8
ANAEMIA	13
PPH	3
GDM	20
Abruptio placenta	2

**TABLE 2: MATERNAL COMPLICATION**

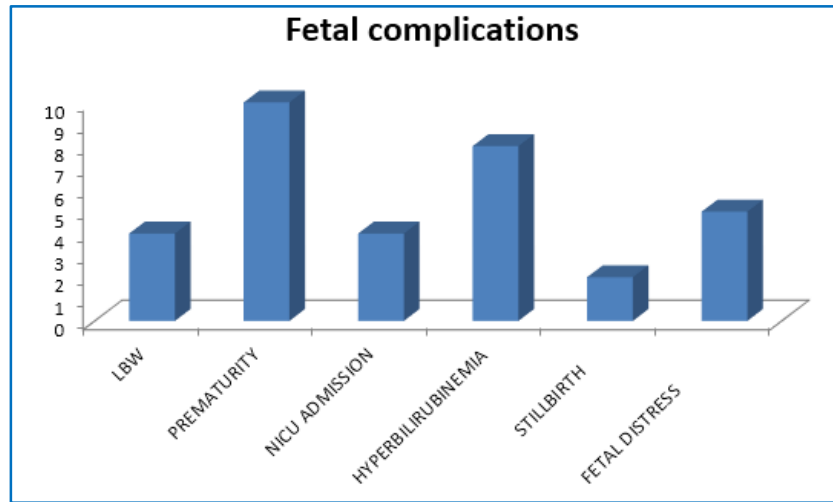


**Fig. 2**

	%
LBW	4
PREMATURITY	10
NICU ADMISSION	4
HYPERBILIRUBINEMIA	8
STILLBIRTH	2
FETAL DISTRESS	5

**TABLE 3: FETAL COMPLICATIONS**

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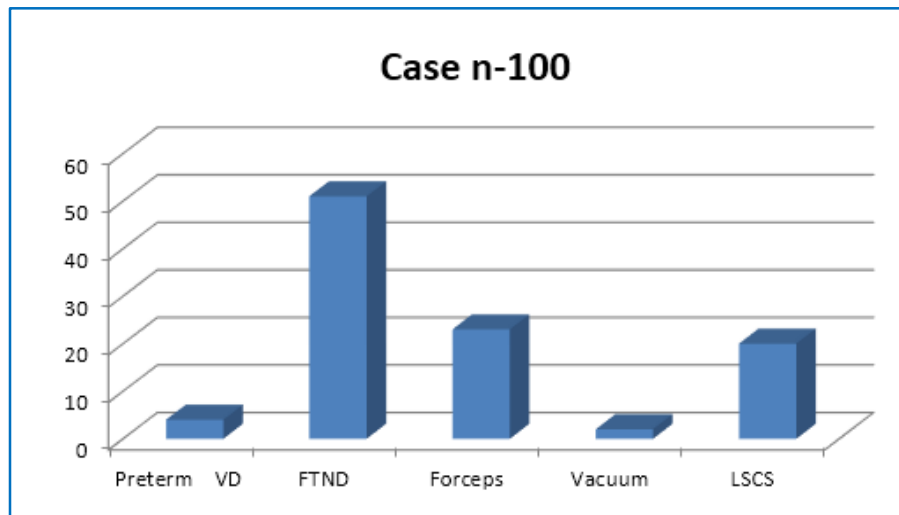


**Fig. 3**

Neonatal TSH were normal in all babies.

<b>MODE OF DELIVERY</b>	<b>Case n-100</b>
Preterm VD	4
FTND	51
Forceps	23
Vacuum	2
LSCS	20

**TABLE 4: MODE OF DELIVERY**



**Fig. 4**

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**DISCUSSION:** It is better to screen women early in pregnancy for thyroid dysfunction. They are common, treatable, and to some extent preventable condition which cause special risk for pregnancy and developing fetus. Screening for thyroid dysfunction is important because thyroid hormone status is directly related to fetal brain development.<sup>6</sup>

Incidence of hypothyroidism in our study is 6.3%.

Thus necessitating the need for thyroid dysfunction.

Maternal complications are shown in Table 2.

Fetal complications are shown in Table 3.

Mode of delivery as shown in Table 4.

Allan et al<sup>7</sup> showed that TSH levels greater than 6mU/L were associated with higher frequency of stillbirth. Ben hadi et al<sup>8</sup> found that high maternal TSH levels were associated with an increased risk of pregnancy loss. Because TSH is inversely related to hCG levels. Women with low hCG levels are at a greater risk of child loss. Goel et al<sup>9</sup> reported a higher incidence of fetal distress in pregnancies complicated by maternal hypothyroidism.

Sahu et al reported that the prevalence of overt and subclinical hypothyroidism in high risk pregnant was 6.47% which is comparable to our study.

This study concludes that there is high prevalence of hypothyroidism. The majority being subclinical hypothyroidism. The maternal and fetal complication can be prevented by treating patients with thyroid hormone. As we are screening every antenatal patients for thyroid dysfunction we are not seeing any increased fetal complication in our study as shown in Table 3. But maternal complications like GDM (20%) & pre eclampsia- (8%) are high in patients with hypothyroidism.

**CONCLUSION:** The incidence of hypothyroidism in pregnancy is found to be very high. By timely screening and supplementing thyroxin in patients with hypothyroidism maternal and fetal complication can be prevented, so routine screening of thyroid dysfunction is recommended in pregnancy. Maternal complication like gestational diabetes and preeclampsia are high. So routine screening.

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