



# PREVALENCE OF SUBCLINICAL HYPOTHYROIDISM DURING PREGNANCY AND ITS MATERNAL AND FETAL OUTCOMES

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**ABSTRACT**

The aim of our study was to assess the benefits and maternal and neonatal outcome in promptly diagnosed and adequately treated antenatal hypothyroid women and to assess whether unfavourable pregnancy outcome and complications are more among the antenatal women who are diagnosed late in pregnancy and hence inadequately treated. This was a prospective study involving 500 women of 20-35yrs attending antenatal visits in Govt.R.S.R.M Lying in hospital from November 2015 to November 2016. Inclusion Criteria includes all first and second trimester antenatal women with singleton gestation ,family history of hypothyroid, auto immune disease, history of treated PCOD, RPL, miscarriage, presence of TPO Antibody, Type 1 Diabetes. Exclusion Criteria includes Multiple gestation, Overt hypothyroidism, Thyroidectomy. Early diagnosis and adequate treatment of maternal hypothyroidism in pregnancy is essential for decreasing the incidence of complications like preeclampsia, GHTN, GDM, preterm labour, low APGAR, NICU admission which are associated with subclinical hypothyroidism.

**KEYWORDS**

**INTRODUCTION:**

Among endocrine disorder in pregnancy thyroid dysfunction is the second most common. Pregnancy increases the demand on maternal thyroid gland. Especially during the first twelve weeks of pregnancy the fetus entirely depends upon the maternal thyroid hormone for the normal neural and skeletal development. Thyroid dysfunction has an adverse maternal and fetal effects.

Among thyroid dysfunction , hypothyroid has a relatively high prevalence during pregnancy affecting upto 14.3 % of all pregnant women in India. Hypothyroidism can be clinical/overt and subclinical .

Subclinical Hypothyroidism is defined as exceeding trimester specific TSH concentration and normal ft4.

TRIMESTER	TSH(miu/dl)	ft4(ng/dl)
1 trimester	0.1-2.5	0.8-1.2
2 trimester	0.2-3	0.6-1.0
3 trimester	0.3-3	0.5-0.8

SCH mostly asymptomatic, but there is evidence of autoimmune thyroid disease (positive TPO Abs and or TG antibodies) in 50-60%, 3 fold increased risk of placental abruption and 2 fold increased risk of preterm labour compared to euthyroid women, Gestational hypertension, neonatal respiratory distress and miscarriage.

**MATERIALS AND METHODS:**

A hospital based prospective study involving 500 women of 20-35yrs attending antenatal visits in Govt.R.S.R.M Lying in hospital from November 2015 to November 2016. Inclusion Criteria includes all first and second trimester antenatal women with singleton gestation ,family history of hypothyroid, auto immune disease, history of treated PCOD, RPL, miscarriage, presence of TPO Antibody, Type 1 Diabetes. Exclusion Criteria includes Multiple gestation, Overt hypothyroidism, Thyroidectomy.

To measure pregnancy outcomes in all the study subjects, all antenatal women in their first trimester (first booking) or if they have their first visit only in second and third trimester will be screened with serum TSH. If TSH is more than 3miu/ml, they will be started on treatment after doing an FT4. They will be monitored to see if their treatment is adequate by repeating a serum TSH again in 2nd and 3rd trimesters. These women will be followed up till term and monitored for complications like preeclampsia,

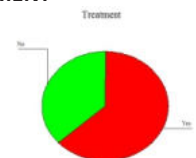
Gestational hypertension, GDM, preterm labour, low APGAR, NICU admission.

Finally, they will be analysed to see if there is a significant increase in complications in the antenatal women who were diagnosed and started on treatment late and whether these complications could have been avoided if they were to be started on treatment early in the course of pregnancy.

**RESULTS:**

**ADEQUATE AND INADEQUATE TREATMENT**

TREATMENT	NUMBER	PERCENTAGE
Adequate	13	43.3%
Inadequate	17	56.7%
Total	30	100

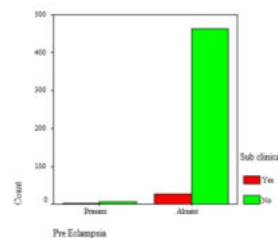


13 women were adequately treated in my study.

**PREVALENCE OF PREECLAMPSIA IN EuTH AND SCH**

Pre Eclampsia	Number		Percentage	
	EuTH	SCH	EuTH	SCH
Present	16	3	3.4 %	9%
Absent	454	27	96.6%	91%
	470	30	100	100

The incidence of preeclampsia in euthyroid women was 3.4% and 9% in SCH women.

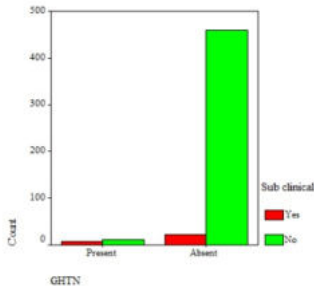


**PREVALENCE OF GHTN IN EuTH AND SCH**

GHTN	NUMBER		PERCENTAGE	
	EuTH	SCH	EuTH	SCH
Present	23	3	4.8%	10%

Absent	457	27	95.2%	90%
Total	470	30	100	100

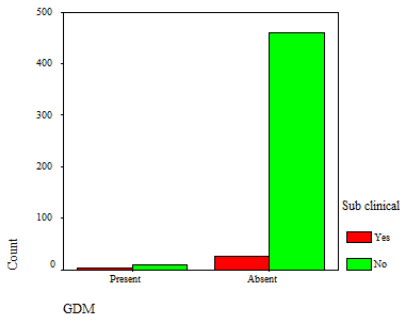
The prevalence of GHTN in euthyroid women was 4.8% and 10% in SCH.



**PREVALENCE OF GDM IN EuTH AND SCH**

GDM	NUMBER		PERCENTAGE	
	EuTH	SCH	EuTH	SCH
Present	63	5	13.3%	16.6%
Absent	407	25	86.7%	84.4%
Total	470	30	100	100

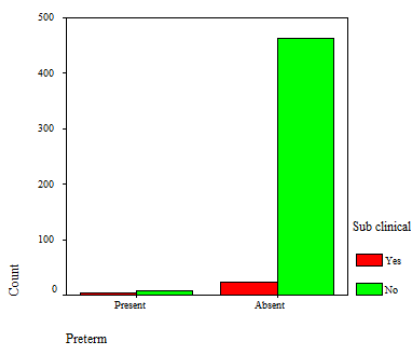
The prevalence of GDM in euthyroid and SCH women were 13.3%.vs16.6%



**PREVALENCE OF PRETERM IN EuTH AND SCH**

PRETERM	NUMBER		PERCENTAGE		P value
	E Uth	SCH	Eu TH	SCH	
Present	17	4	3.6%	13.3%	.031
Absent	453	26	96.4%	86.7%	
Total	470	30	100	100	

The prevalence of preterm labour in euhyroid was 3.6% and 13.3% in SCH.

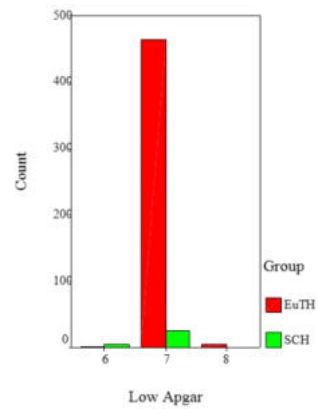


**PREVALENCE OF LOW APGAR INEuTHAND SCH**

LOW APGAR	NUMBER		PERCENTAGE		P Value
	Eu TH	SCH	Eu TH	SCH	
6	2	4	0.4%	13.3%	
7	464	26	98.8%	86.7%	.000
8	4	0	0.8%	0	
Total	470	30	100	100	

The prevalence of low apgar in euthyroid women was 0.4%

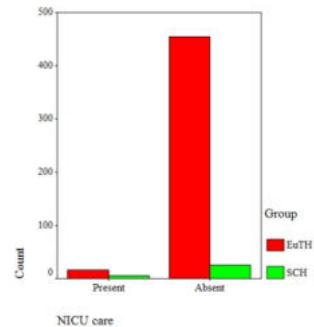
and 13.3% in SCH



**PREVALENCE OF NICU CARE IN EuTH AND SCH**

NICU CARE	NUMBER		PERCENTAGE		P value
	Eu TH	SCH	Eu TH	SCH	
Present	16	5	3.4%	16.6%	.006
Absent	454	25	96.6%	83.4%	
Total	470	30	100	100	

The prevalence of NICU Care in euthyroid status was 3.4% and 16.6%.



**SUMMARY:**

In this study, more than 56% women screened in first trimester. There were 13 women belongs to adequately treated women with subclinical and has less incidence of complication than 17 inadequately treated SCH women. There were significant increased prevalence of about 9% Preeclampsia, 10% GHTN, 16.6% of GDM, 13.3% preterm birth compared to euthyroid pregnant women. In our study inadequately treated group had high incidence of low APGAR, NICU admission than adequately treated group. Adequately treatment group had significantly reduced incidence of perinatal complications 3.5% than 32% in inadequately treated group.

**CONCLUSION:**

Early screening, diagnosis and treatment will prevent maternal and fetal complications and reduces the complication of subclinical hypothyroidism in pregnancy.

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