

Table 1: Thyroid function test normal ranges (mean \pm SD) in preterm newborns (\leq 31 weeks GA)

Postnatal age (days)	TSH (μ l)	T4 (μ g/dl)	FT4 (ng/dl)	T3 (ng/dl)
7 days	3.6 \pm 2.5	6.3 \pm 2.1	1.82 \pm 0.7	56 \pm 24
14 days	4.9 \pm 1.2	6.6 \pm 2.3	1.65 \pm 0.4	72 \pm 28
28 days	3.6 \pm 2.5	7.5 \pm 2.3	1.7 \pm 0.4	82 \pm 31

TSH: thyroid stimulating hormone, FT4: free thyroxine, T4: thyroxine, T3: Triiodothyronine

Table 2: Thyroid function test normal ranges (mean \pm SD) in preterm newborns ($>$ 31 weeks GA)

Postnatal age (days)	TSH (μ l)	T4 (μ g/dl)	FT4 (ng/dl)	T3 (ng/dl)
7 days	3.6 \pm 4.8	9.4 \pm 3.4	2.14 \pm 0.6	92 \pm 36
14 days	3.8 \pm 5.3	9.1 \pm 3.5	1.98 \pm 0.4	110 \pm 41
28 days	3.5 \pm 3.4	8.9 \pm 3.0	1.88 \pm 0.5	120 \pm 40

TSH: thyroid stimulating hormone, FT4: free thyroxine, T4: thyroxine, T3: Triiodothyronine

Table 3: Sociodemographic characteristics of studied preterm infants

Characteristics	Group I (≤ 31 weeks) N (80)	Group II (> 31 weeks) N (76)	P Value
Birth weight (gm), mean \pm SD	1122 \pm 140	2130 \pm 234	0.021*
Male sex, n (%)	48 (60%)	44 (57.9 %)	0.084
Apgar Score, mean \pm SD			
1 st min	5 \pm 2	5 \pm 3	0.062
5 th min	7 \pm 2	7 \pm 3	0.062
Delivery type: C/S, n (%)	62 (77.5 %)	72 (94%)	0.034*
Antenatal steroid n (%)	72 (90%)	60 (78.9)	0.071
Pregnancy induced hypertension, n (%)	9 (11.25%)	11 (14.47%)	0.088
Gestational DM, n (%)	5 (6.25 %)	8 (10.52%)	0.022*
Pathologic chorioamnionitis, n (%)	2 (2.5%)	3 (3.9%)	0.038*

*P value < 0.05 : statistically significant

Table 4: Mean serum levels of TSH, T4, FT4 based on GA

Mean \pm SD	< 28 weeks N = 8	28- 29 weeks N = 12	30-31 weeks N =60	>31 weeks N =76	P Value
TSH (mu/l)	2.26 \pm 1.33	3.79 \pm 3.14	4.14 \pm 1.44	4.41 \pm 3.33	0.08
FT4 (ng/dl)	1.24 \pm 0.23	1.41 \pm 0.29	1.42 \pm 0.31	1.53 \pm 0.47	0.04*
T4 (ug/dl)	5.06 \pm 2.61	6.24 \pm 2.25	8.11 \pm 3.04	7.47 \pm 2.50	0.01*

*P value < 0.05 : statistically significant, TSH: thyroid stimulating hormone, FT4: free thyroxine T4: thyroxine, GA: Gestational age

Table 5: Mean levels of TSH, T4, FT4 during 4 weeks after birth

Mean ± SD	Age 5 of birth	14 days	28 days
TSH (mu/l)	3.85±2.83	5.02±4.73	4.36±2.68
FT4 (ng/dl)	1.39±0.47	1.39±0.65	1.24±0.38
T4 (ug/dl)	6.76±2.75	6.73±2.84	6.12±2.42

TSH: thyroid stimulating hormone, FT4: free thyroxine, T4: thyroxin

Table 6: TSH, T4 and FT4 levels during 4 weeks after birth

Levels	1st Week	2nd Week	4th Week
TSH (mu/l)			
< 5	82	70	66
5-7	28	26	16
7-10	26	20	12
>10	20	15	10
Total	156	131	104
Missing cases	22	25	27
FT4 (ng/dl)			
< 0.7	3	2	2
>0.7	153	129	102
Total	156	131	104
T4 (ug/dl)			
<7	86	71	60
>7	70	60	44
Total	156	131	104

TSH: thyroid stimulating hormone, FT4: free thyroxine, T4: thyroxin

Table 7: frequency of thyroid dysfunction among study groups

Thyroid function disorders	Group I ≤ 31 weeks N (80)	Group II > 31 weeks N (76)
Overall prevalence of thyroid dysfunction	80 (22.47 %)	76 (21.34 %)
Neonatal hypothyroidism	9 (11.25%)	7 (9.2%)
Transient hypothyroxinemia	42(52.5%)	38 (50 %)
Transient 1ry hypothyroidism	18 (22.5%)	14 (18.4%)
Transient hyperthyrotropinemia	11 (13.75%)	9 (11.8%)