Results

Our study group including 50 pregnant mothers at delivery and their corresponding newborns (15 full term neonates and 35 preterm neonates). The individual data of this group are shown in appendix. They included maternal and neonatal characteristics, as well as hematological and biochemical parameters.

Tables and Figures :

Table (1) demonstrate the mean value of different parameters among full term and preterm groups.

Table (2) shows the mean value of neonatal hematological and biochemical parameters at birth (full term & preterm).

The mean value of cord s. vit. A of full term group was (29.31 ± 4.54 ug/dl), and ranged from (22.4 - 37.3 ug/dl) , and the mean value of s.vit. A of preterm group was (13.43 ± 4.16 ug/dl) and ranged from (7.3 - 22.1 ug/dl) .

The mean value of s. vit. A of preterm group was much lower than mean value of s.vit. A of full term group.

The mean value of Hb (g/dl) of full term group was (15.68 ± 2.2 g/dl) and ranged from (12.5-19.5 g/dl) and the mean value of Hb of preterm group was (15.69 ± 2.3 g/dl) and ranged from (10.5 - 20 g/dl).

Fig. (1) show mean values of different parameters among both groups (pre term and full term) .

Fig. (2) show means of vit. A level among the preterm group according to their weight.

Fig. (3) show means of Hb concentration among preterm group according to their weight.

Fig. (4) show mean value of Hb concentration and vitamin. A level among

Fig. (5) show mean value of vit. A level and Hb concentration among fullterm group according to their gestionan age.

Fig. (6) show mean of vit. A level and Hb concentration of preterm group according to their gestionan age.

Table (3) demonstrate the mean value of different parameters among mothers of both studied groups (full term and preterm).

Table (4) shows the mean value of maternal hematological and biochemical parameters.

The mean value of s.vit. A of mothers of full term group was (44.65 ± 6.38 ug/dl) and ranged from (33.2 -56.4 ug/dl) and the mean value of s. vit. A of mothers of preterm group was (29.67 ± 6.88 ug/dl) and ranged from (20.1 - 42.1 ug/dl).

Fig. (7) shows mean value of different parameters of mothers of both grousp.

Table (5) demonstrate correlation coefficient (r) between different neonatal characteristics, hematological and biochemcial parameters, there was a significant correlation between cord s. vit.A of full term group and all neonatal parameters except for gestational age and hemoglobin.

also there is a significannt correlation between cord s.vit. A of preterm group and all neonatal parameters except for hemoglobin.

Table (6) shows the correlation coefficient (r) between vit. A level in mothers of full term group and their different parameters and there is no a significant correlation.

Table (7) shows the correlation coefficient (r) between vit. A level in mothers of preterm group and their different parameters and there is no significant correlation except for height.

Table (8) shows the correlation coefficient (r) between vit.A level in preterm and full term groups and different parameters of their mothers,

different parameters of their mothers except for maternal age also there was no significant correlation between s. vit. A in preterm group and different parameters of their mothers except for maternal s.vit. A.

Table (9) shows the mean values of vitamin A level among full term group according to their weight show positive correlation between s. vit. A. and fetal weight. ($P < 0.05$)

Table (10) shows the mean value of Hb concentration among full term group according to their weight, it show non significant correlation between Hb and their weight ($P > 0.05$)

Table (11) , (12) shows the mean value of vit. A level and Hb % among full term group according to gestional age .

It shows no significant correlation between Hb % , vit. A level and there gestional age. ($P > 0.05$).

Table (13), (14) shows the mean value of vit. A and Hb % among preterm group according to their gestional age.

It shows no significant correlation between vit. A level , Hb level and their gestational age. ($P > 0.05$).

Table (15) shows mean value of vit. A level among the preterm group according to their weight, there was no significant correlation between vit. A and weight (fetal weight < 1500 gm. ($P_1 > 0.05$) , but there was a significant correlation when fetal body weight increas

$P_2 < 0.001$

$P_3 < 0.001$

Table (16) shows mean value of Hb % among preterm group according to their weight, it shows no significant correlation between Hb % and their weight

Fig: (8) show means of vit. A level in preterm group according to their diagnosis

Table (17) show mean value of vit. A level in preterm group according to their diagnosis.

ANOVA : $F = 0.87$ $P > 0.05$

n ± S.D and range of different parameters among the studied fullterm and preterm groups.

s	Preterm (n = 35)			Fullterm (no =15)			Test of significance	
	X ± S.D	Range		X ± S.D	Range		"t"	P
		mini.	maxi.		mini.	maxi.		
	1.74 ± 0.45	1.05	2.6	2.98 ± 0.38	2.6	4.05	10.01	< 0.001 *
	44.94 ± 2.62	40.0	50.0	48.67 ± 4.01	44	56.0	3.71	< 0.001 *
	30.23 ± 1.88	26.0	35.0	35.07 ± 2.24	32	39.0	7.12	< 0.001 *
	26.91 ± 1.61	25.0	32.0	30.13 ± 1.99	28	36.0	5.37	< 0.001 *
	32.34 ± 2.41	28.0	36.0	39.4 ± 1.74	38	42.0	11.7	< 0.001 *

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onal

± S.D and range of neonatal hematological and biochemical parameters at birth.

ups	Preterm (n = 35)			Full term (n = 15)			Test of significance	
	$\bar{X} \pm$ S.D	Range		$\bar{X} \pm$ S.D	Range		"t"	P
		Mini.	Maxi.		Mini.	Maxi.		
l.)	15.69 ± 2.3	10.5	20.0	15.68 ± 2.2	12.5	19.5	0.49	> 0.05 N.S
	13.43± 4.16	7.3	22.1	29.31 ± 4.54	22.4	37.3	11.18	< 0.001 *

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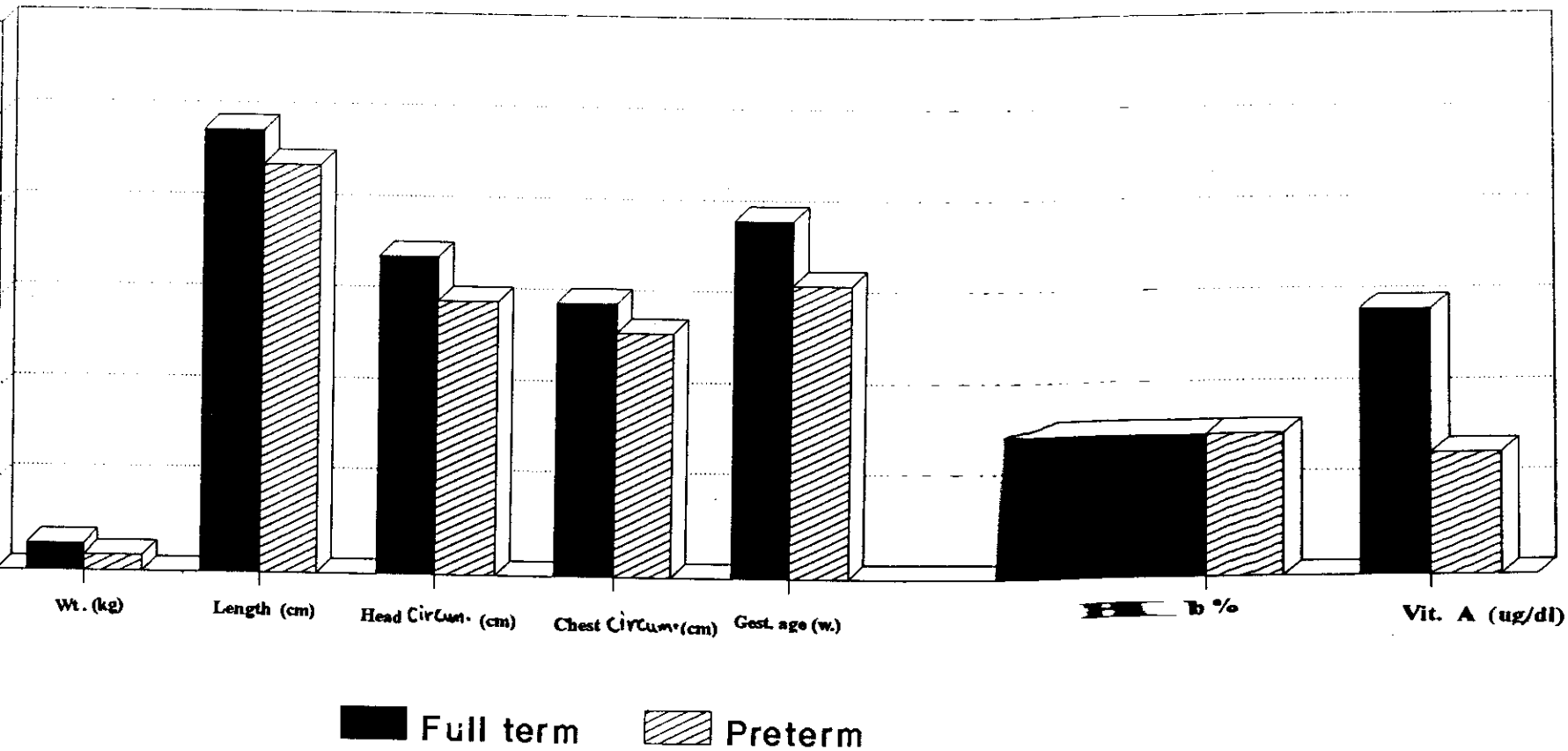


Fig.(1): Mean values of different parameters among both groups (preterm and full term)

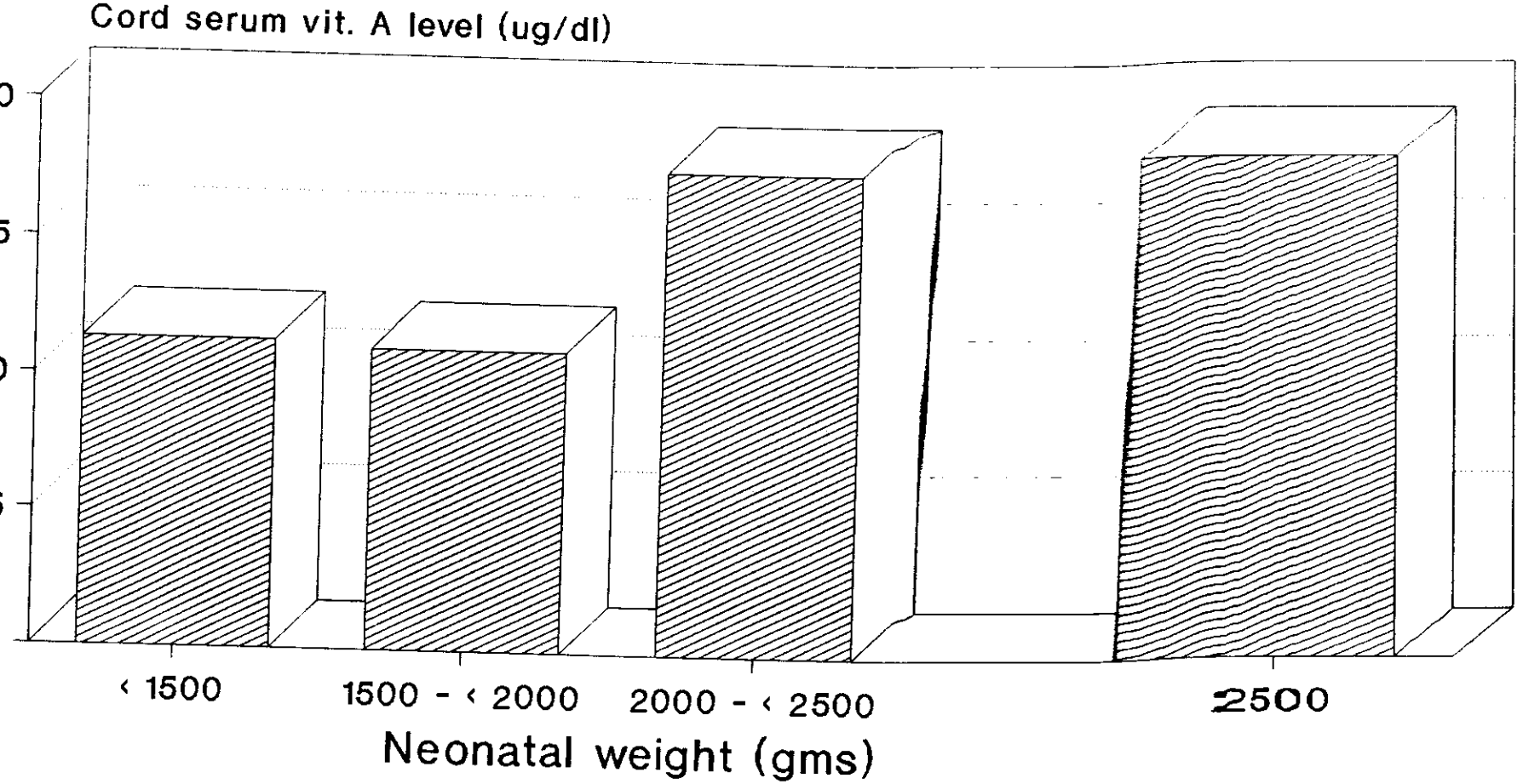


Fig.(2): Means of vitamin A level among the preterm group according to their weight (gms).

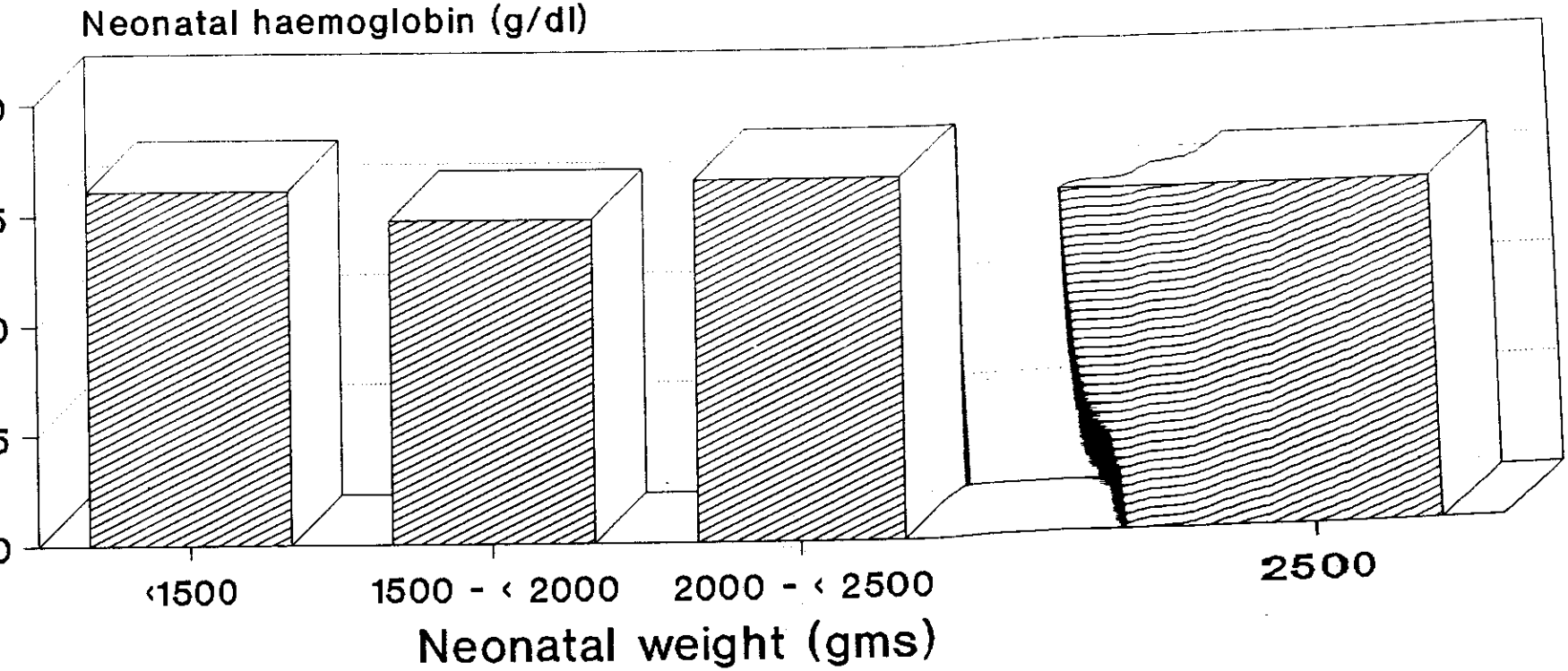
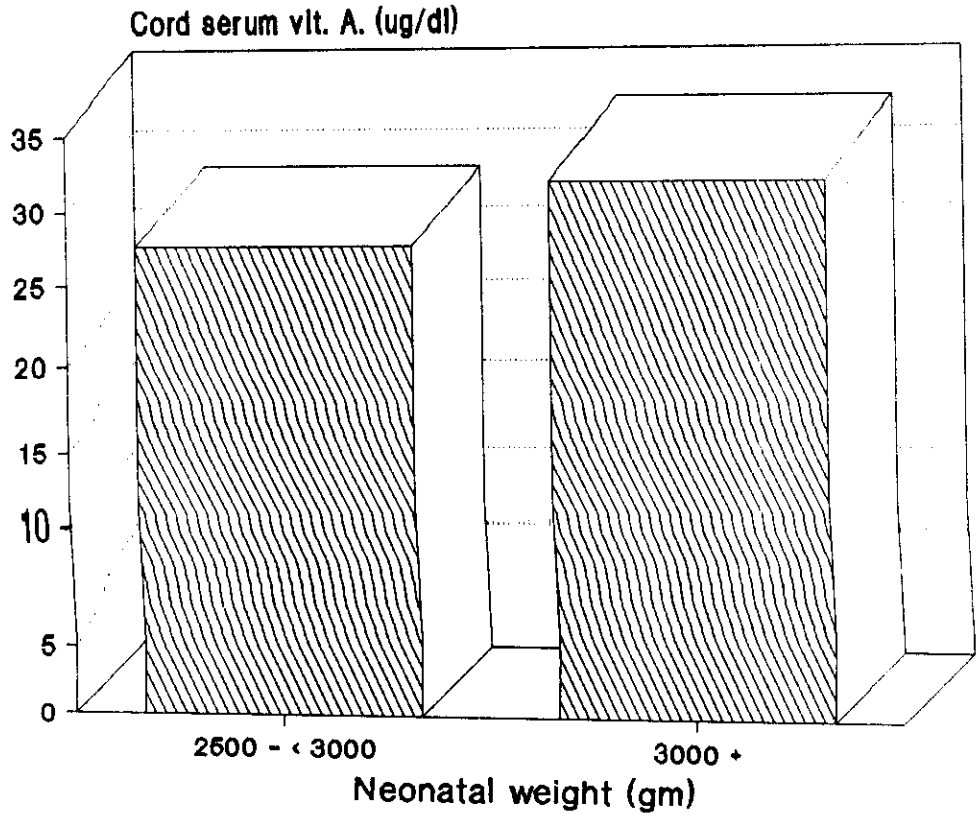


Fig.(3): Means of haemoglobien concentration among preterm group according to their weight (gms).



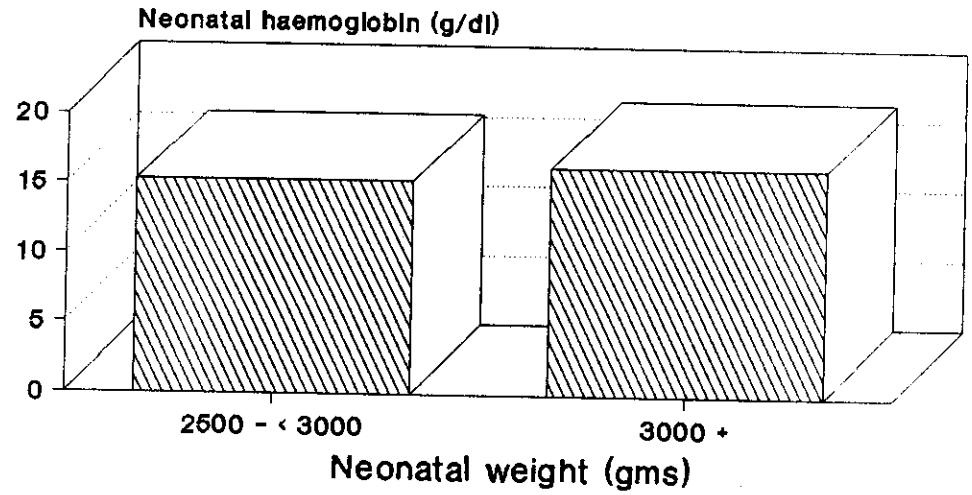
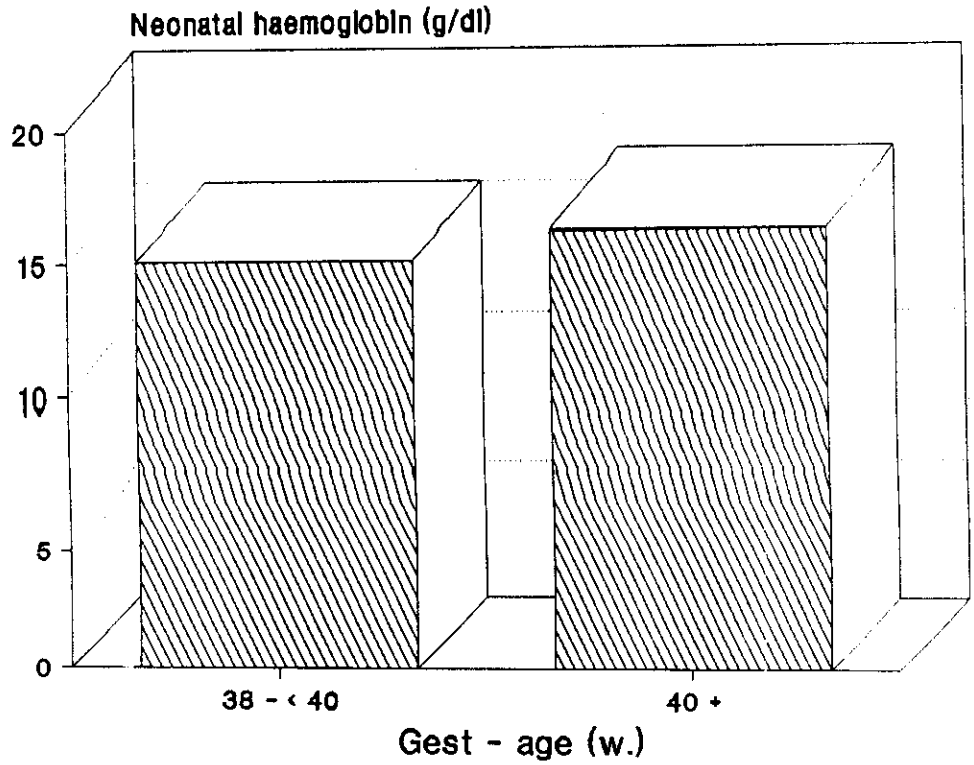


Fig.(4): Mean values of haemoglobin concentration and vit. A level among full term according to thier weight (gms).



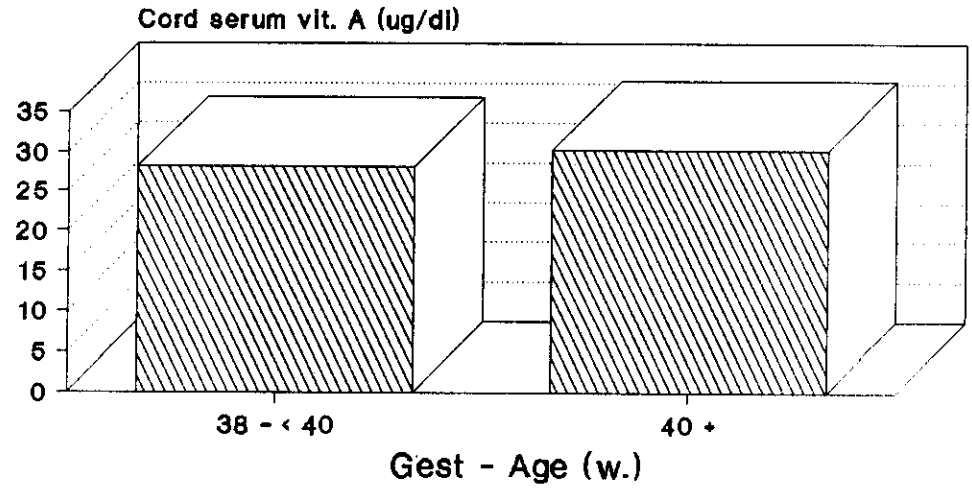
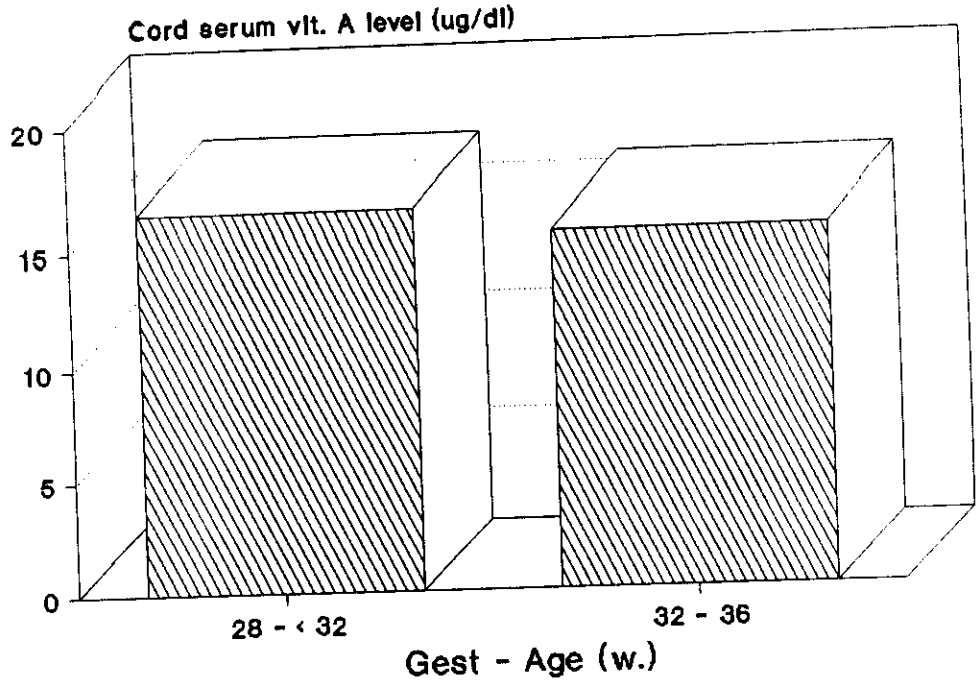


Fig.(6): Means of vit. A level and haemoglobin concentration among full term group according to gestional age.



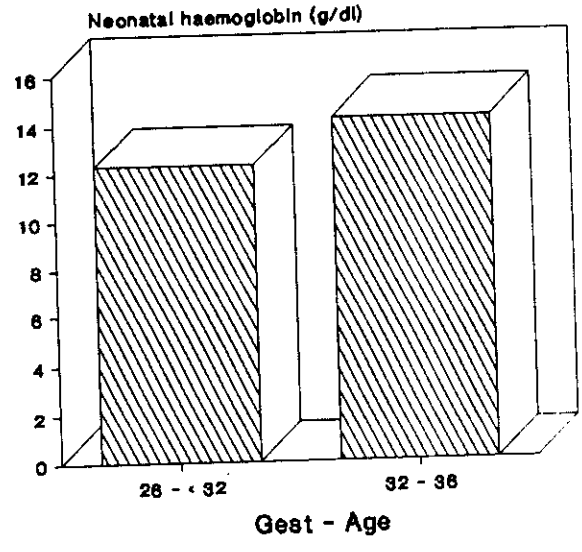


Fig.(6): Mean of vit A. level and haemoglobin concentration among preterm group according to gestational age .

Table (3) : Mean ± S.D and range of different parameters of mothers of both studied groups (Preterm and full term)

Studied groups / Different parameters	Mothers of Preterm (n = 35)			Mothers of Full term (n = 15)			Test of significance	
	$\bar{X} \pm$ S.D	Range		$\bar{X} \pm$ S.D	Range		"t"	P
		Mini.	Maxi.		Mini.	Maxi.		
- Age	28.54 ± 4.29	21.0	35.0	27.87 ± 4.14	20.0	34.0	0.524	> 0.05 N.S
- Parity	2.5 ± 1.2	1.0	5.0	2.5 ± 1.3	1.0	5.0	0.048	> 0.05 N.S
- Weight (Kg)	75.17 ±10.13	63.0	103.0	71.8 ± 4.78	65.0	80.0	1.6	> 0.05 N.S
- Height (cm)	165.63± 5.3	159.0	182.0	167.27 ± 5.4	160.0	184.0	0.99	> 0.05 N.S

N.S = Non significant

Studied groups / Different parameters	Mothers of Preterm (n = 35)			Mothers of Full term (n= 15)			Test of significance	
	$\bar{X} \pm$ S.D	Range		$\bar{X} \pm$ S.D	Range		"t"	P
		Mini.	Maxi.		Mini.	Maxi.		
a- Haemoglobin (g/dl.)	11.97 ±1.65	8.6	15.0	11.77 ±1.85	7.5	14.0	0.38	>0.05 N.S
b- Vitamin A (ug/dl)	29.67 ± 6.88	20.1	42.1	44.65 ± 6.38	33.2	56.4	7.43	< 0.001 *

* Significant

N.S = Non significant

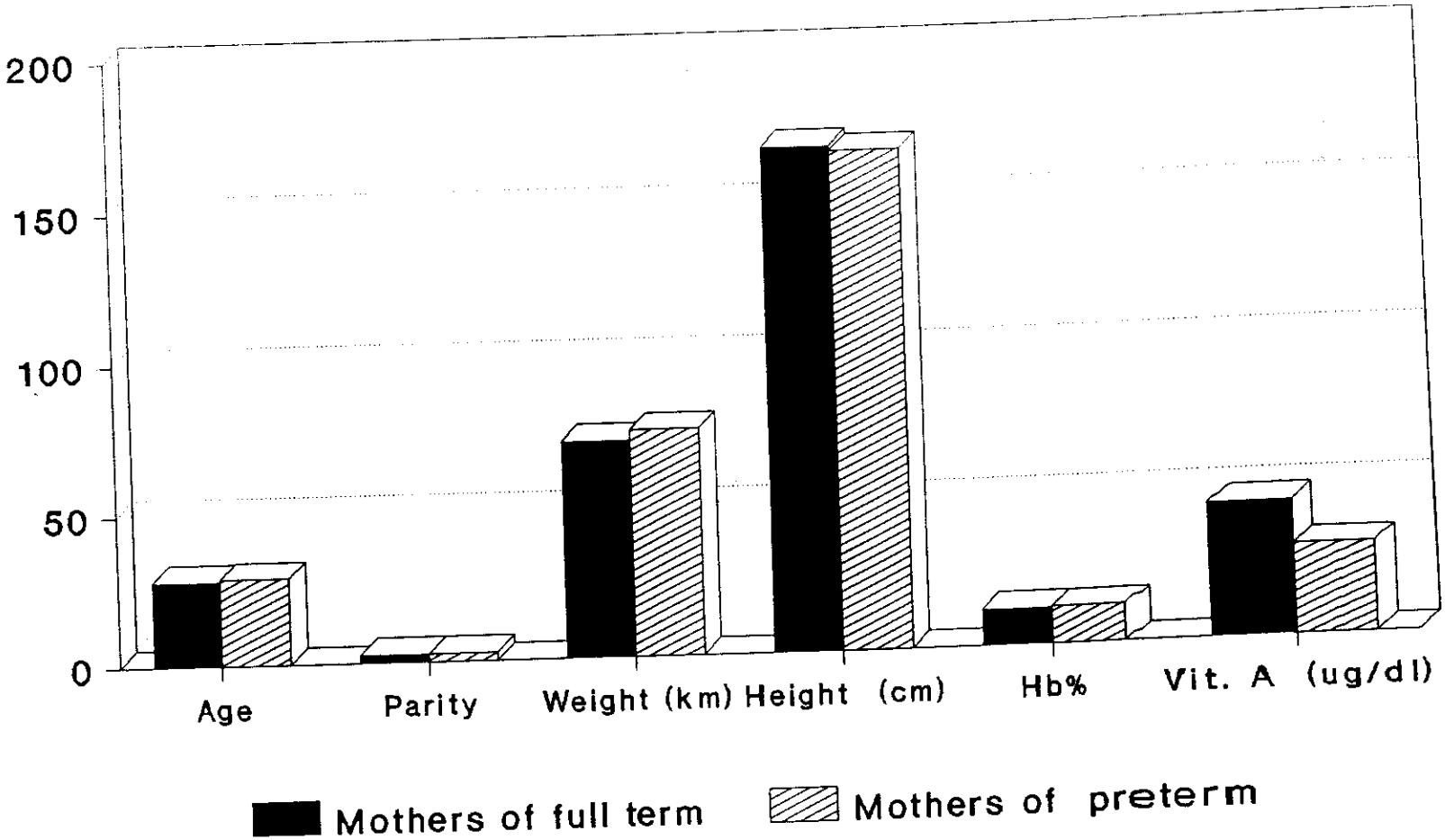


Fig.(7) : Mean values of different parameters of mothers of both groups.

Table (5) Correlation coefficient (r) between vitamin A level and different parameters among

both groups (Preterm and full term)

Studied group / Different parameters	Preterm (n= 35)		Full term (n = 15)	
	r	p	r	p
- Weight (Kg)	0.563	< 0.001 *	0.6065	< 0.01 *
- Length (cm)	0.631	< 0.001 *	0.693	< 0.01 *
- Head circum. (cm)	0.548	< 0.001 *	0.621	< 0.01 *
- Chest Circum. (cm)	0.554	< 0.001 *	0.4944	< 0.05 *
-Gestational age(w.)	0.589	< 0.001 *	0.207	> 0.05 N.S
- Haemoglobin(g/dl.)	0.298	> 0.05 N.S	0.3612	> 0.05 N.S

* Significant

N.S = Nonsignificant

Circum. = Circumference

Table (6) Correlation coefficient (r) between vitamin A level in mothers of full term infants and their different parameter.

ifferent Parameters	Correlation coefficient (r)	p	
ge	0.2031	> 0.05	N.S
arity	0.0097	> 0.05	N.S
Veight (kg)	0.1318	> 0.05	N.S
eight (cm)	0.0342	> 0.05	N.S
aemoglobin (g/dl.)	0.314	> 0.05	N.S

.S = Non Significant

e (r) Correlation coefficient (r) between vitamin A level in mothers of preterm infants and their different p

ferent Parameters	Correlation coefficient (r)	p	
	0.0149	> 0.05	N.S
ity	0.1739	> 0.05	N.S
ight (kg.)	0.1823	> 0.05	N.S
ght (cm.)	0.3589	< 0.05	*
emoglobin (g/dl.)	0.1448	> 0.05	N.S

gnificant

= Non significant

Table (6) Correlation coefficient (r) between vitamin A level in infants (Preterm & full term) and

parameters of their mothers.

Studied group / Different parameters of Mothers	Vitamin A in preterm			Vitamin A in full term		
	r	p		r	p	
Vitamin A (ug/dl.)	0.5452	< 0.05	*	0.0763	> 0.05	N.S
Haemogobin(g /dl)	0.1025	> 0.05	N.S	0.1199	> 0.05	N.S
Age	0.0647	> 0.05	N.S	0.6277	< 0.01	*
parity	0.0539	> 0.05	N.S	0.2361	> 0.05	N.S
Weight (kg.)	0.1882	> 0.05	N.S	0.166	> 0.05	N.S
Height (cm.)	0.3031	> 0.05	N.S	0.1776	> 0.05	N.S

* Significant

N.S Non Significant

able (9) means, S.D and ranges of vitamin A level among full term group according to their weight (gms).

Vitamin. A (ug/dl.) / eight (gms)	X ± S.D	Range		Total	
		Mini.	Maxi.	n	%
500 - 3000	27.6 ± 4.7	22.4	36.2	9.0	60.0
3000	31.95 ± 2.7	29.3	32.6	6.0	40.0
otal	29.27 ± 4.7	22.4	37.3	15.0	100.0

T = 2.27 P < 0.05 (Significant)

Table (10) mean, S.D and ranges of haemoglobin concentration among full term group according to their weight (gms)

Haemoglobin % / veight (gms)	X ± S.D	Range		Total	
		Mini.	Maxi.	n	%
2500 - 3000	15.25 ± 2.04	12.5	19.0	9.0	60.0
> 3000	16.25 ± 2.17	14.1	19.5	6.0	40.0
Total	15.65 ± 2.23	12.5	19.5	15.0	100.0

T = 0.9 P > 0.05 Non significant)

ıble (11) Means , SD & ranges of vit.A level among full term group according to gestational age

Vit .A (ug/dl) / st.age. (w.)	X ± S.D	Range Min.	Max.	Totat N	%
- < 40	28.2 ± 5.1	22.4	36.2	7.0	46.7
+	30.3 ± 3.8	24.2	37.3	8.0	53.3
ɔtal	29.27 ± 4.7	22.4	37.3	15.0	100.0

= 0.9 P > 0.05 Non significant

Table (12) Means , SD & ranges of haemoglobin concentration among full term group according to gestational age

Haemoglobin(gl/dl) / est.age (w.)	X ± S.D	Range Min.	Max.	Totat N	%
3 - < 40	15.03 ± 2.2	12.5	19.0	7.0	46.7
) +	16.2 ± 1.95	14.1	19.9	8.0	53.3
ɔtal	15.65 ± 2.23	12.5	19.9	15.0	100.0

= 1.08 P > 0.05 Non significant

ble (13) Means , SD and ranges of vit. A among preterm groups according to gestational age

vit. A(ug/dl) / st. age (w.)	X + SD	Range Mini.	Maxi.	Total N	%
- < 32	12.3 ± 4.0	8.1	19.3	14.0	40.0
- 36	14.2 ± 4.1	7.3	22.1	21.0	60.0
otal	13.53 ± 4.21	7.3	22.1	35.0	100.0

T= 1.37 P > 0.05 Non significant

able (14) Means , SD and ranges of haemoglobin concentration among preterm groups according to gestational age

Haemoglobin (gl/dl) / ast. age (w.)	X + SD	Range Mini.	Maxi.	Total N	%
3 - < 32	16.4 ± 2.7	10.5	20.0	14.0	40.0
2 - 36	15.4 ± 2.2	11.9	19.0	21.0	60.0
otal	15.81 ± 2.16	10.5	20.0	35.0	100.0

T= 1.15 P > 0.05 Non significant

able (15) means , S.D and ranges of vitamin A level among the preterm group according to their weight (gms) .

Vit. A.(ug/dl) / (gms)	X ± S.D	Range		Totat	
		Min.	Max.	N	%
< 1500	11.3 ± 2.9	8.1	17.1	13.0	37.14
1500 - < 2000	11.04 ± 2.7	7.3	17.1	10.0	28.57
2000 - < 2500	17.7 ± 2.7	14.3	22.1	10.0	28.57
2500	18.35 ± 0.9	17.5	19.2	2.0	5.72
tal		7.3	22.1	35	100.0

= 0.22 $P_1 > 0.05$ (group1 versus 2)
= 5.47 $P_2 < 0.001$ (group1 versus 3)
= 6.84 $P_3 < 0.001$ (group1 versus 4)

Table (16) Mean , S.D and ranges of haemoglobin concentration among preterm group according to their weight (gms).

Vit. A.(ug/dl) / t (gms)	X ± S.D	Range		Totat	
		Min.	Max.	N	%
< 1500	16.1 ± 2.6	10.5	20.0	13.0	37.14
1500 - < 2000	14.7 ± 1.9	11.9	18.5	10.0	28.57
2000- < 2500	16.43 ± 2.24	12.5	19.0	10.0	28.57
2500	15. 5 ± 2.0	13.5	19.0	2.0	5.72
tal	15.81 ± 2.16	10.5	20	35	100.0

= 1.59 P > 0.05 (1 versus 2)
= 0.33 P > 0.05 (1 versus 3)
= 0.38 P > 0.05 (1 versus 4)

Table (17) Means, S.D and rangs of vit. A level in preterm group according to their diagnosis .

Vit. A(μg/dl) / Diagnosis	X ± SD	Rang		Total	
		Min.	Max.	N.	%
.D	12.13 ± 3.14	8.1	18.2	17.0	48.6
epsis	13.84 ± 5.1	7.3	22.1	13.0	37.1
aundice	13.47 ± 4.26	9.0	19.2	5.0	14.3
Total	13.53 ± 4.21	7.3	22.1	35.0	100.0

A NOVA : F = 0.87

P > 0.05 (Non significant)

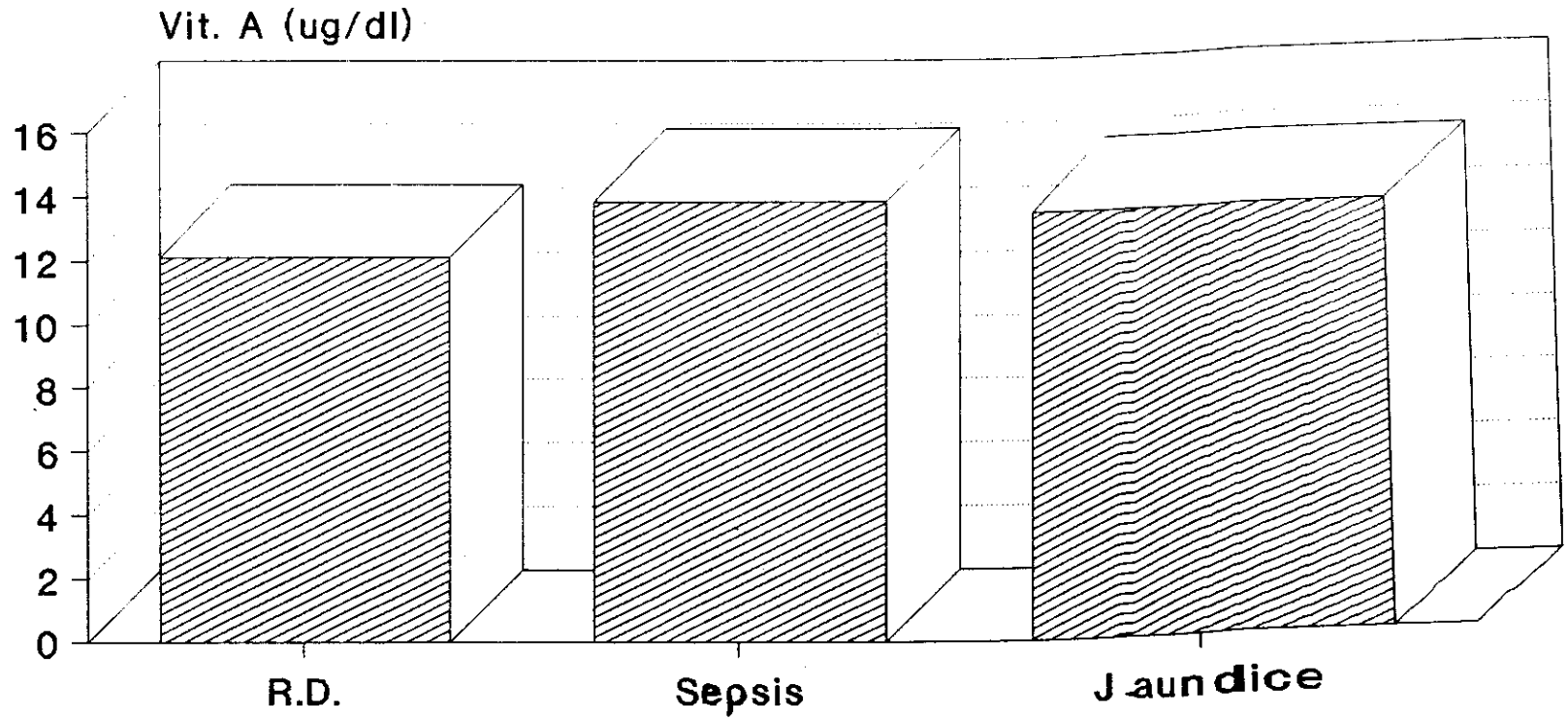


Fig.(8): Means of vit. A level in preterm group according to their diagnosis