Results

***The results of this study were showing that is in*:**

- ***Study group:***

The gestational age ranging between (37- 40 weeks) with a mean (39.4 weeks) . the birth weight was ranging between (2.8 – 4.5 Kg) with a mean (3.6 Kg). the length was ranging between (48 – 51 cm).with a mean (49.5 cm) and the head circumference was ranging between (33 – 36 cm) with a mean (34.7 cm). **(Table 1)**

The total serum bilirubin level among **study group** before phototherapy was ranging between (12.5 – 18.9 mg/dL) with a mean (16.8 mg/dL) and after phototherapy the total serum bilirubin level was ranging between (5.7 – 9.3 mg/dL) with a mean (7.5 mg/dL). **(Table 1)**

The total serum calcium level among **study group** before phototherapy was ranging between (8.5– 11.1 mg/dL) with a mean (9.3 mg/dL) while 48 hours after phototherapy it was ranging between (7.4 - 10.1 mg/dL) with a mean (8.3 mg/dL). **(Table 1)**

The haematocrite value was ranging between (44.6 – 55.0 %) with a mean (49.1 %) and the reticulocytic count was ranging between (2 – 10 %) with amean (6.4 %) and the hemoglobin level was ranging between (14.2 – 18.3 gm%) with a mean (16.4 gm%). **(Table 1).**

*Table(1:)*Descriptive clinical and laboratory data of study group (Fullterm Jaundiced neonates):

	Mean N=25	SD	Range
Gestational age wks	39.5	0.9	37- 40
Weight (Kg)	3.6	0.48	2.8-4.5
Length (cm)	49.6	0.86	48-51
Head circumference (cm)	34	0.7	33-36
Apgar score at 1 min	6.5	0.58	5-7
Apgar score at 5 min	9.04	0.73	8-10
Retics %	6.4	2.9	2-10
Hb gm%	16.4	1.3	14.2-18.3
Haematocrite%	49.1	3.5	44.6-55
Total serum Ca before phototherapy	9.3	.73	8.5-11.1
Total serum Ca after phototherapy	8.3	.89	7.4-10.1
Total serum Bilirubin before phototherapy	16.8	2.1	12.5-18.9
Total serum Bilirubin after phototherapy	7.5	1.1	5.7-9.3

- ***Control group:***

The gestational age was ranging between (38 – 40 weeks) with a mean of (39.6 weeks) . the birth weight was ranging between (2.5 – 4 Kg) with a mean (3.3 Kg) . the length was ranging between (47 – 50 cm) with a mean (48.4 cm) . the head circumference was ranging between (33 – 36 cm) with a mean (33.9 cm) . **(Table 2)**

The total serum bilirubin level was ranging between (6.9 – 10.2 mg/dL) with a mean (8.9 mg/dL). **(Table 2)**

The total serum calcium level at 0 hour was ranging between (7.9 – 10.2 mg/dL) with a mean (9.14 mg/dL). and at 48 hour was ranging between (8-10.3 mg\dL) with mean (9.11 mg\dL). **(Table 2)**

*Table(2):*Descriptive clinical and laboratory data of Group 2 (Fullterm control neonates):

	Mean N=15	SD	Range
Gestational age wks	39.6	0.63	38-40
Weight (Kg)	3.3	0.4	2.5-4
Length (cm)	48.4	0.9	47-50
Head circumference (cm)	33.8	0.8	33-36
Apgar score at 1 min	6.6	0.82	5-8
Apgar score at 5 min	9.4	0.5	9-10
Total serum Ca level in mg/dl at 0 hour	9.14	.64	7.9-10.2
Total serum Ca level at 48 hour	9.11	.64	8-10.3
Total serum bilirubin level in mg/dl	8.8	0.9	6.9-10.2

*Table(3):*Total serum Ca in Control group and study group at 0 hour:

Serum Ca level (mg\dl)	Control Group	Study Group
Range	7.9-10.2	8.5-11.1
Mean	9.1	9.3
SD ±	0.64	0.73
T test	1.1	
P value	>0.05	

This table shows no statistically significant difference between serum Ca level in both study and control group at 0 hour**.**

Table (4): Comparison between serum Ca level among studied groups at 0 hours and at 48 hour:

	Serum Ca level(mg\dl)			
	Control group		Study group	
	At 0 hour	At 48 hour	At 0 hour	After phototherapy
Range	7.9-10.2	8-10.3	8.5-11.1	7.4-10.1
Mean	9.11	9.14	9.36	8.38
SD	0.64	0.64	0.73	0.89
T test	1.46		9.74	
P value	>0.05		<0.001	

Table(4) shows highly statistically significant difference in serum Ca level after phototherapy and before phototherapy in ***study group***. And it also shows that there is no statistically significant difference in serum Ca level at 0 hour and at 48 hour in ***control group***.

*Table (5):*Sex distribution among studied group:

		Sex		
		Male	Female	Total
Control	N	8	7	15
	%	53.3	46.7	100
Case	N	13	12	25
	%	52	48	100
Total	N	21	19	40
	%	52	48	100
Pearson Chi-Square		0.107		
P-value		>0.05		

*Fig(1):*Sex distribution among studied groups*:*

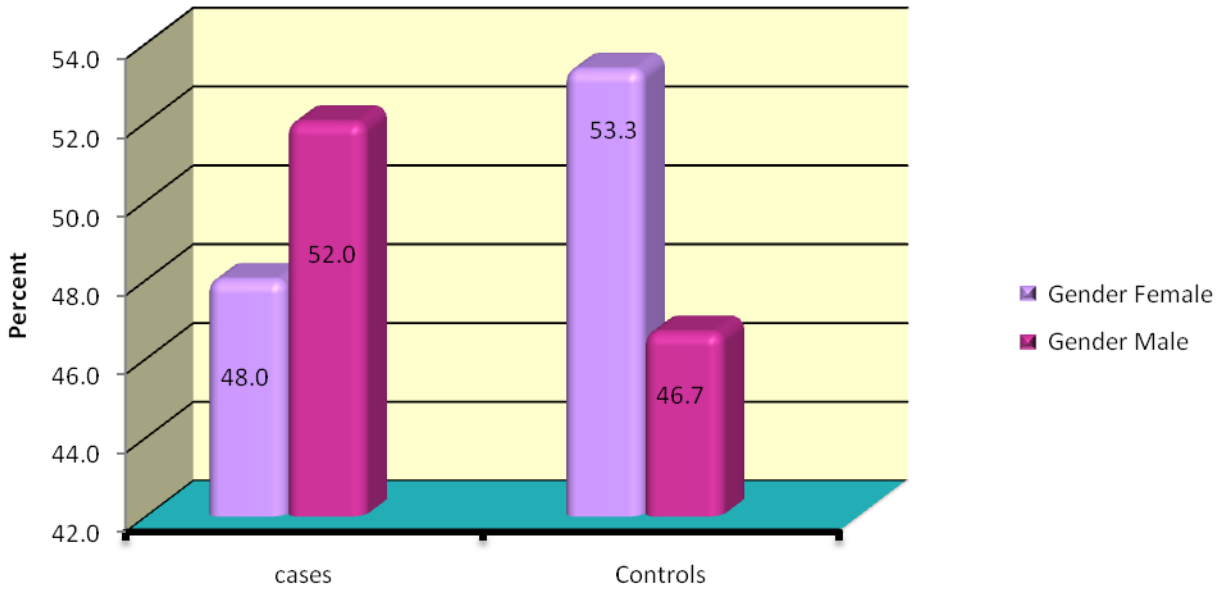

Table 5 and fig 1 show no statistically significant difference among studied groups in relation to sex.

*Table (6):*Relation between serum Ca level and gender in study group:

	Serum Ca level (mg\dl)	
	Male	**Female**
Range	7.6-10.1	7.4-10.1
Mean	8.9	8.4
SD ±	0.91	0.82
T test	1.75	
P value	>0.05	

Table 6 shows no statistically significant relation between serum Ca level and gender in study group**.**

Table (7): **Correlation between serum Ca level and Weight in study groups:**

	Weight (kg)	Serum Ca level (mg\dl)
Range	2.8-4.6	7.4-10.1
Mean	3.6	8.3
SD ±	0.48	0.89
Pearson correlation	- 0.03	
P value	>0.05	

This table shows there is no statistically significant correlation between serum Ca level and Weight.

***Fig(2)*: Correlation between serum Ca level and Weight in study group:**

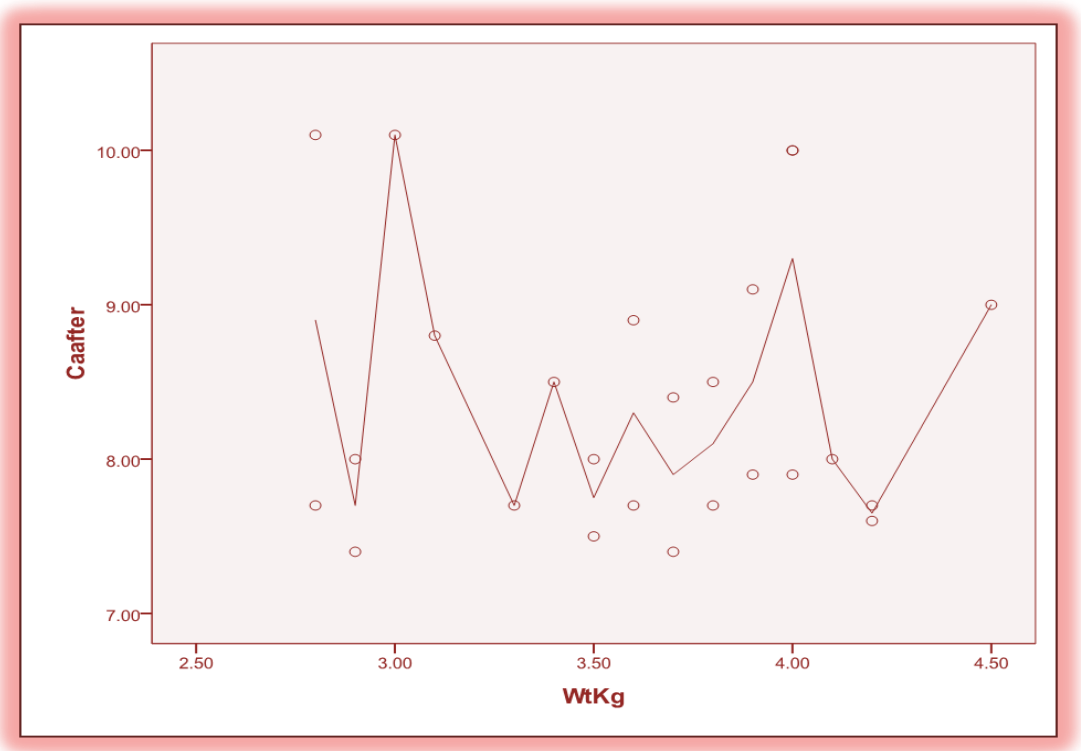

Fig2 shows that there is no statistically significant correlation between Weight and serum Ca level in study group.

Table (8): Correlation between serum Ca level and Bilirubin level:

	Before phototherapy		After phototherapy	
	Serum Ca (mg\dl)	Serum Bilirubin (mg\dl)	Serum Ca (mg\dl)	Serum Bilirubin (mg\dl)
Range	8.5-11.1	12.5-18.9	7.4-10.1	5.7-9.3
Mean	9.3	16.2	8.3	7.5
SD ±	0.73	2.1	0.89	1.1
Pearson correlation	0.24		0.07	
P value	> 0.05		> 0.05	

The table shows there is no statistically significant correlation between serum Ca level and serum Bilirubin level.

***Fig(3):*Correlation between serum Ca level and serum Bilirubin level before phototherapy:**

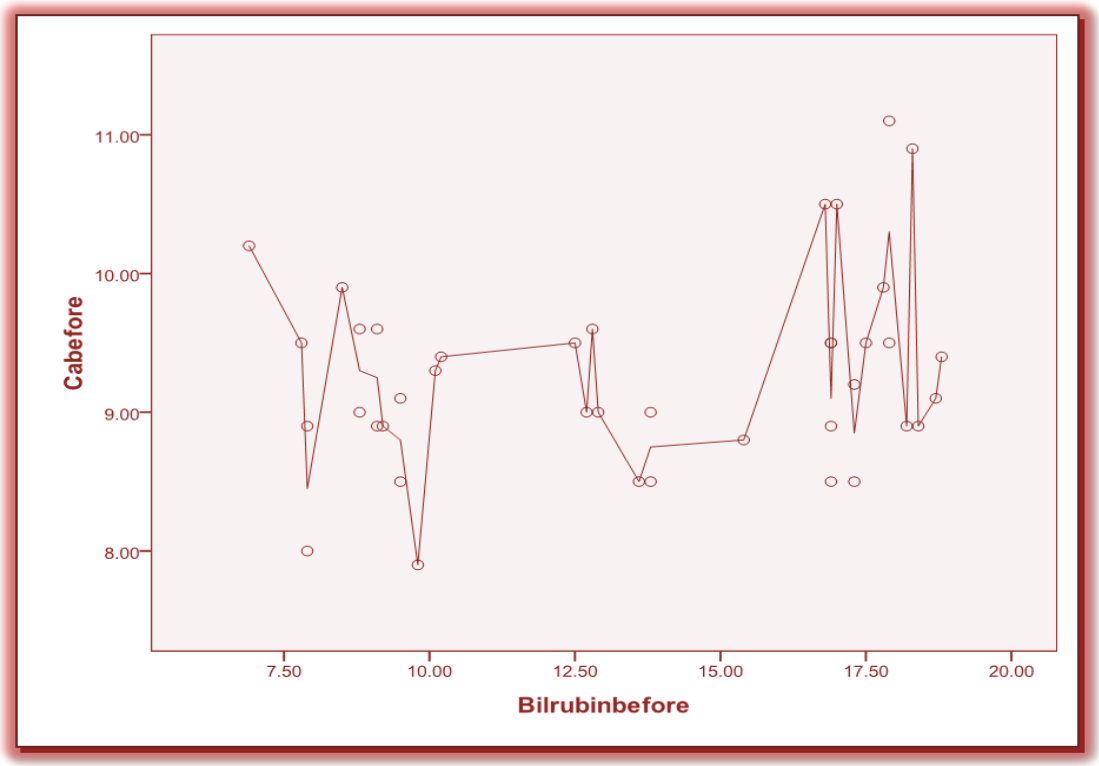

***Fig (4):*Correlation between serum Ca level and bilirubin after phototherapy:**

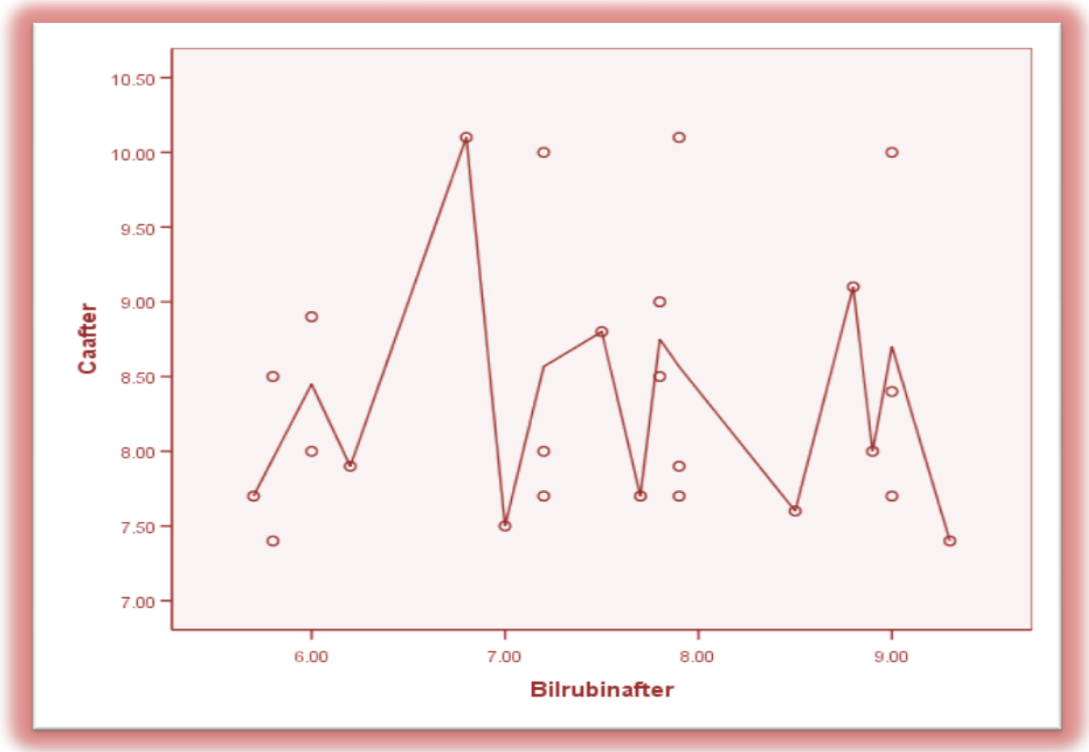

Fig 3 and Fig 4 show no statistically significant correlation between serum Ca level and serum Bilirubin level.

Table (9): Correlation between serum Ca level after phototherapy and duration of phototherapy

	Serum Ca level after phototherapy(mg\dl)	Duration of phototherapy(hrs)
Range	7.4-10.1	48-96
Mean	8.3	59.5
±SD	0.89	16.7
(Pearson Correlation)	-0.6	
P value	<0.05	

This table shows there is statistically significant correlation between serum Ca level after phototherapy and duration of phototherapy

*Fig (5):*Correlation between serum Ca level and duration of phototherapy:

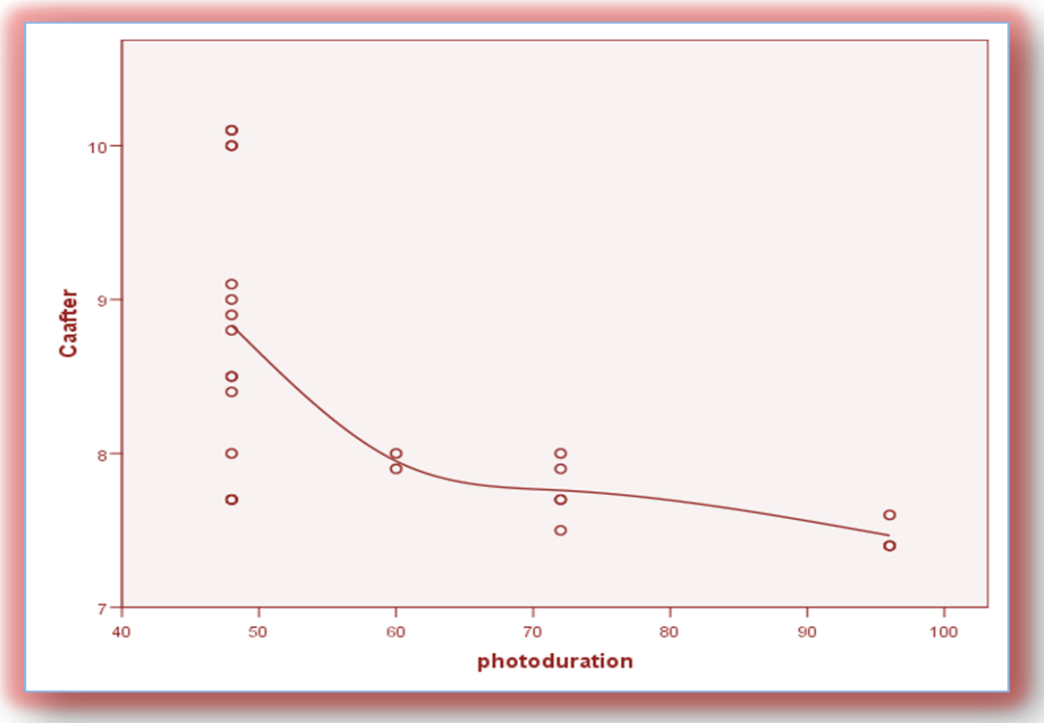

Fig5 Shows statistically significant correlation between serum Ca level after phototherapy and duration of phototherapy.

Fig (6) Ca level at different points of phototherapy:

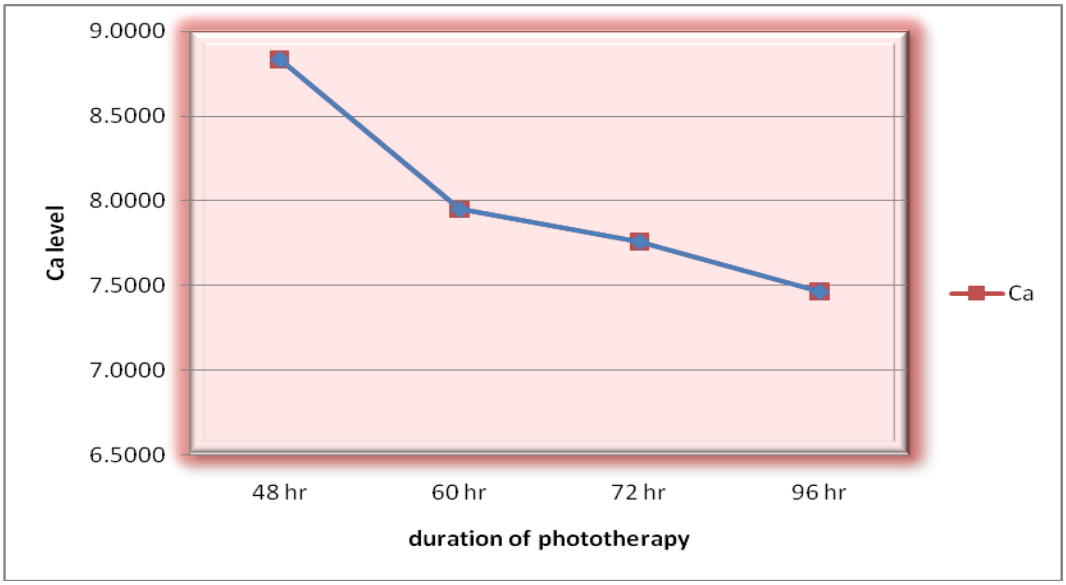

Fig 6 shows that the more duration of phototherapy. the more hypocalcaemia result.