RESULTS

ANALYSIS OF THE RESULTS

The results of this study were depicted and statistically analyzed in following tables (29) and figures (16).

Table (1) and figure (1), show statistical comparison of the mean value of total cholesterol within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was high significant increase of total cholesterol in all subjects.

Table (2) and figure (2), show statistical comparison of the mean value of high density lipoprotein, HDL, within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was non significant increase of all subject than the non obese control.

Table (3) and figure (3), show statistical comparison of the mean value of low density lipoprotein, LDL, within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was highly significant difference in all obese subjects vs non obese control group.

Table (4) and figure (4), show statistical comparison of the mean value of triglyceride TG, within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was highly significant increase of TG in all obese than non obese control group.

Table (5) and figure (5), show statistical comparison of the mean value of apolipoprotein-A, (Apo-A), within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was highly significant increase of Apo-A in all obese than non obese control group.

Table (6) and figure (6), show statistical comparison of the mean value of apolipoprotein-B, (Apo-B), within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was highly significant increase of Apo-B in all obese than non obese control group.

Table (7) and figure (7), show statistical comparison of the mean value of cortisol within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was non significant differences in between studied groups.

Table (8) and figure (8), show statistical comparison of the mean value of insulin, within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was highly significant increase of insulin all obese than non obese control group.

Table (9) and figure (9), show statistical comparison of the mean value of triiodothyronin, T3 within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was non significant differences in between studied groups.

Table (10) and figure (10), show statistical comparison of the mean value of thyroxin, T4 within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was non significant differences in between studied groups.

Table (11) and figure (11), show statistical comparison of the mean value of parathyroid, PTH, within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was highly significant increase in all subjects than the non obese control group.

Table (12) and figure (12), show statistical comparison of the mean value of calcium within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was non significant differences in between studied groups.

Table (13) and figure (13), show statistical comparison of the mean value of glucose within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was non significant differences in between studied groups.

Table (14) and figure (14), show statistical comparison of the mean value of alkaline phosphatase within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid, and male vs female. There was non significant differences in between studied groups.

Table (15) and figure (15), show statistical comparison of the mean value of aspartate aminotransferase, AST, within the four studied groups; all obese vs non obese control, obese vs superobese, android vs gynoid,

Table:(1)

STATISTICAL ANALYSIS OF SERUM LEVELS OF TOTAL CHOLESTEROL IN DIFFERENT STUDIED GROUPS

(mg/dL)

Group	Number	M	±SD	T	P
All subjects	100	171.0	48.6		
Control	20	140.8	13.4	5.30	<0.01
Obese	46	176.9	59.1		
Supeobese	54	169.9	37.3	1.09	>0.05
Android	56	169.9	43.9		
Gynoid	44	172.4	54.9	0.25	>0.05
Male	40	169.0	51.3		
Female	60	172.3	47.1	0.33	>0.05

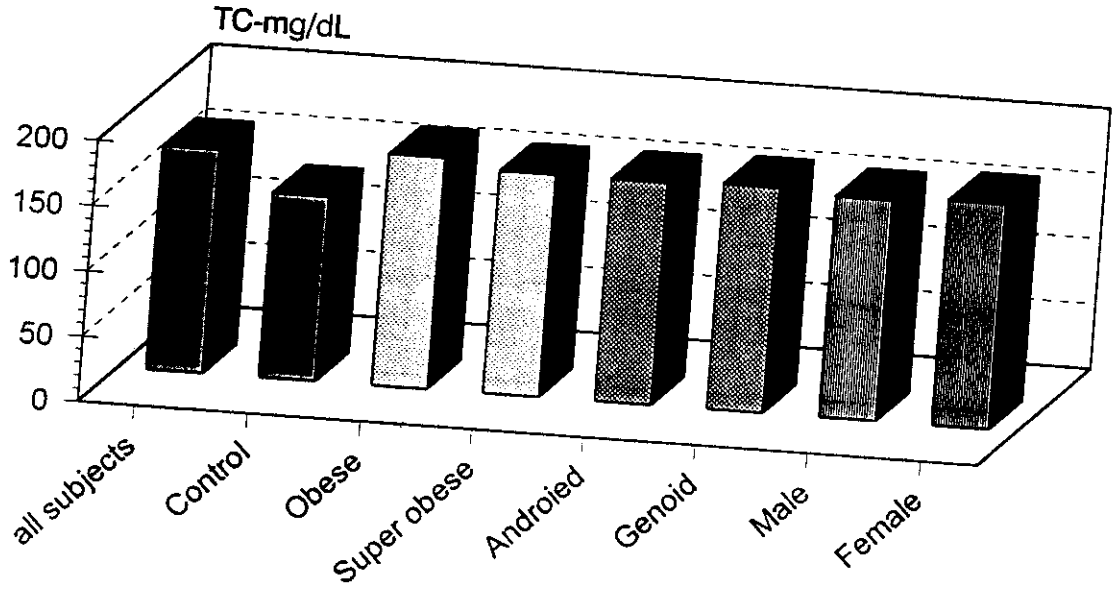


Figure:(1)

SERUM LEVELS OF TOTAL CHOLESTEROL IN DIFFERENT STUDIED GROUPS

Table:(2)

STATISTICAL ANALYSIS OF SERUM LEVELS OF HIGH DENSITY LIPOPROTEIN IN DIFFERENT STUDIED GROUPS

(mg/dL)

Group	Number	M	±SD	T	P
All subjects	100	38.9	20.7	1.99	>0.05
Control	20	32.4	11.2		
Obese	46	40.9	23.7	0.91	>0.05
Superobese	54	37.1	17.7		
Android	56	37.8	20.9	0.59	>0.05
Gynoid	44	40.3	20.6		
Male	40	36.9	19.5	0.76	>0.05
Female	60	40.2	21.5		

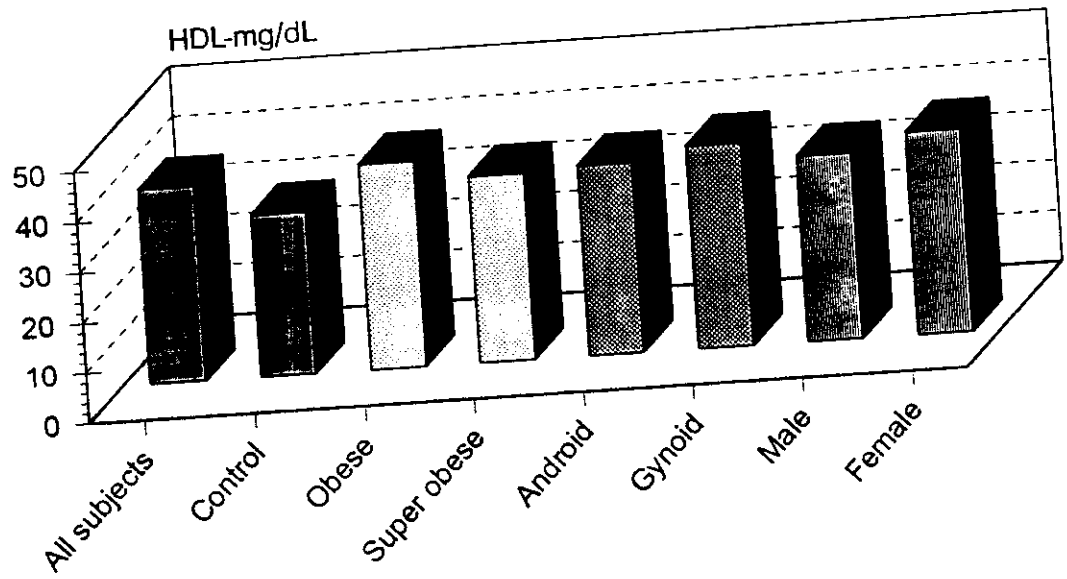


Figure:(2)

SERUM LEVELS OF HIGH DENSITY LIPOPROTEIN IN DIFFERENT STUDIED GROUPS

Table:(3)

STATISTICAL ANALYSIS OF SERUM LEVELS OF LOW DENSITY LIPOPROTEIN IN DIFFERENT STUDIED GROUPS

(mg/dL)

Group	Number	M	±SD	T	P
All subjects	100	122.2	45.8		
Control	20	70.8	14.1	9.26	<0.01
Obese	46	129.7	50.9		
Superobese	54	115.8	40.6	1.49	>0.05
Android	56	122.5	38.8		
Gynoid	44	121.8	53.9	0.08	>0.05
Male	40	119.0	48.6		
Female	60	124.3	44.1	0.57	>0.05

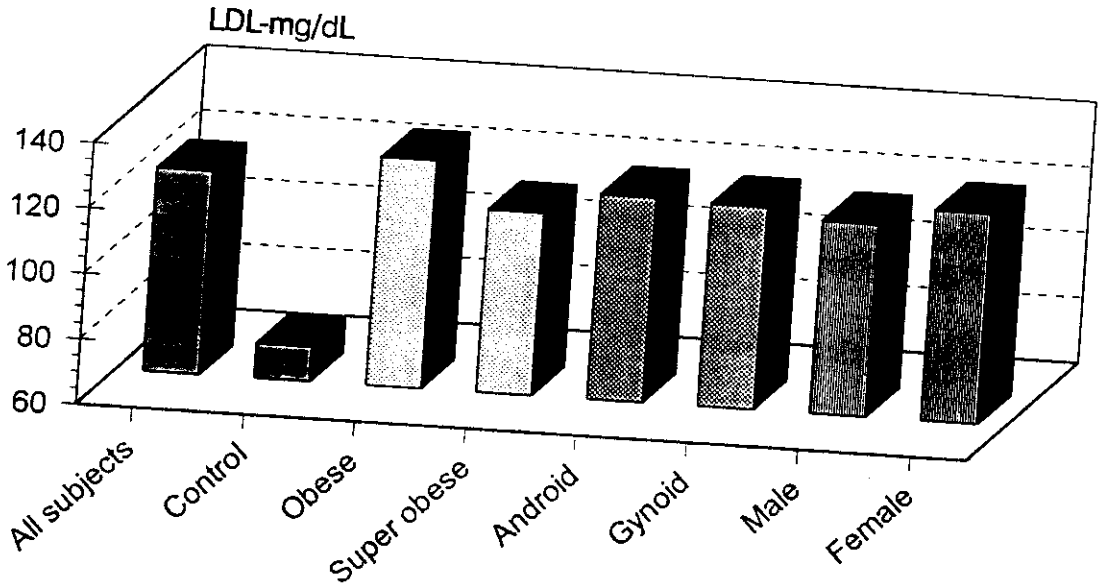


Figure:(3)

SERUM LEVELS OF LOW DENSITY LIPOPROTEIN IN DIFFERENT STUDIED GROUPS

Table:(4)

STATISTICAL ANALYSIS OF SERUM LEVELS OF TRIGLYCERIDE IN DIFFERENT STUDIED GROUPS

(mg/dL)

Group	Number	M	SD	T	P
All subjects	100	107.3	45.2	12.7	<0.01
Control	20	45.8	8.1		
Obese	46	118.7	49.8	2.34	>0.05
Superobese	54	97.6	38.7		
Android	56	98.9	40.9	2.13	<0.05
Gynoid	44	117.9	48.5		
Male	40	109.5	43.1	0.40	>0.05
Female	60	105.8	46.8		

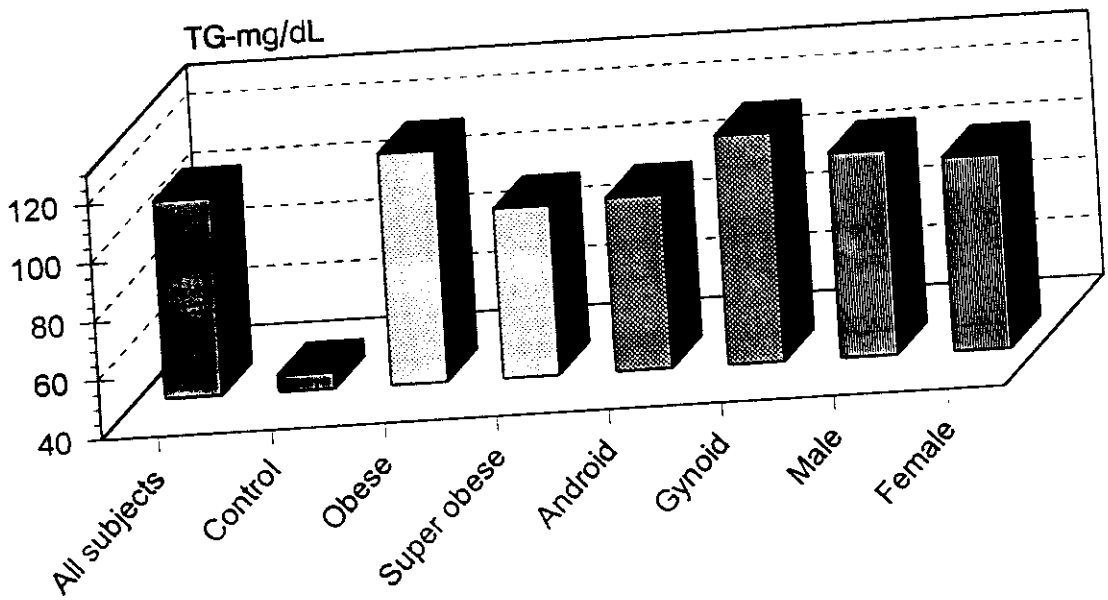


Figure:(4)

SERUM LEVELS OF TRIGLYCERIDE IN DIFFERENT STUDIED GROUPS

Table:(5)

STATISTICAL ANALYSIS OF SERUM LEVELS OF APOLIPOPROTEIN-A IN DIFFERENT STUDIED GROUPS

(mg/dL)

Group	Number	M	±SD	T	P
All subjects	100	140.8	85.7		
Control	20	105.4	16.1	0.83	<0.01
Obese	46	129.5	76.2		
Superobese	54	150.7	92.9	1.24	>0.05
Android	56	127.8	93.6		
Gynoid	44	157.2	72.3	1.77	>0.05
Male	40	138.0	73.6		
Female	60	142.6	93.5	0.26	>0.05

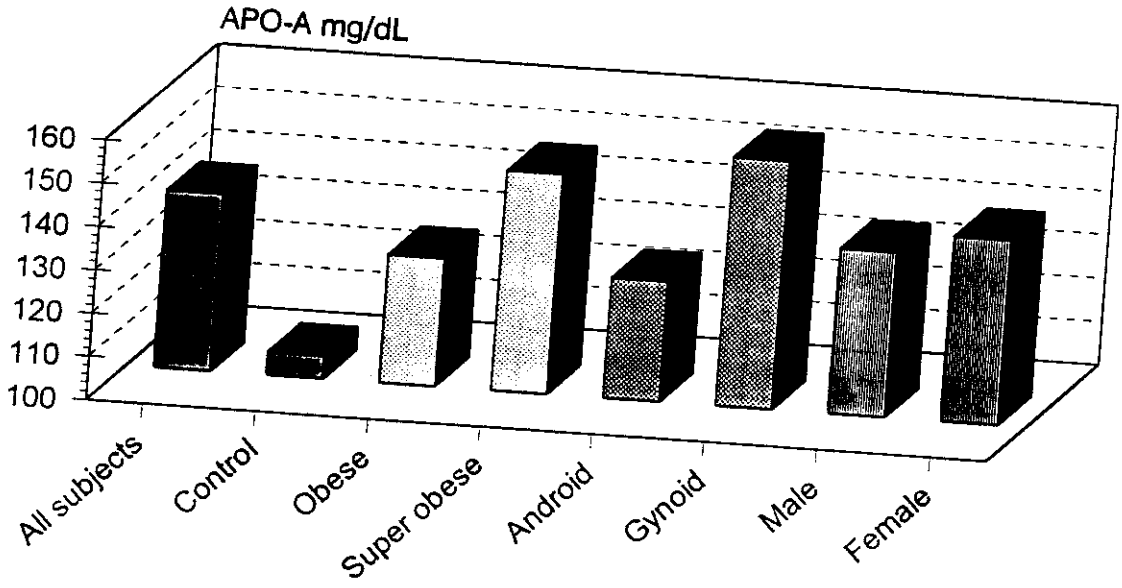


Figure:(5)

SERUM LEVELS OF APOLIPOPROTEIN A IN DIFFERENT STUDIED GROUPS

Table:(6)

STATISTICAL ANALYSIS OF SERUM LEVELS OF APOLIPOPROTEIN-B IN DIFFERENT STUDIED GROUPS

(mg/dL)

Group	Number	M	±SD	T	P
All subjects	100	211.3	105.4	12.47	<0.01
Control	20	74.7	13.3		
Obese	46	208.2	105.1	0.27	>0.05
Superobese	54	214.0	105.6		
Android	56	195.2	100.4	1.74	>0.05
Gynoid	44	231.8	109.1		
Male	40	203.5	109.6	0.60	>0.05
Female	60	216.5	103.1		

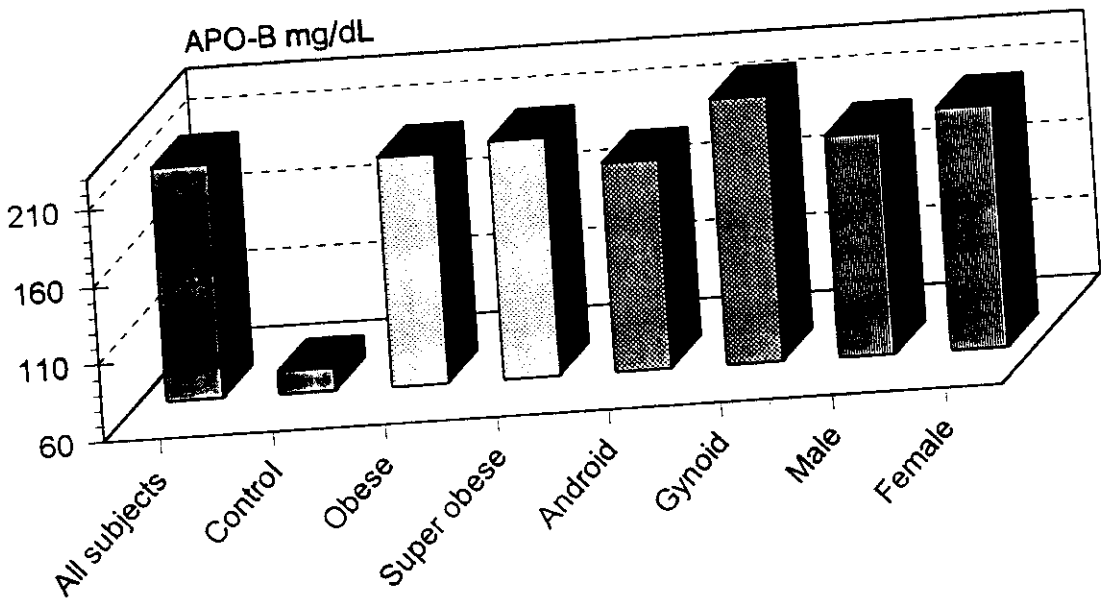


Figure:(6)

SERUM LEVELS OF APOLIPOPROTEIN B IN DIFFERENT STUDIED GROUPS.

Table:(7)

STATISTICAL ANALYSIS OF SERUM LEVELS OF CORTISOL IN DIFFERENT STUDIED GROUPS

(µg/dL)

Group	Number	M	±SD	T	P
All subjects	100	17.9	14.3		
Control	20	14.5	2.8	1.52	>0.05
Obese	46	18.2	12.7		
Superobese	54	17.8	15.6	0.14	>0.05
Android	56	18.4	17.3		
Gynoid	44	17.5	9.3	0.33	>0.05
Male	40	15.5	8.5		
Female	60	19.6	16.9	1.42	>0.05

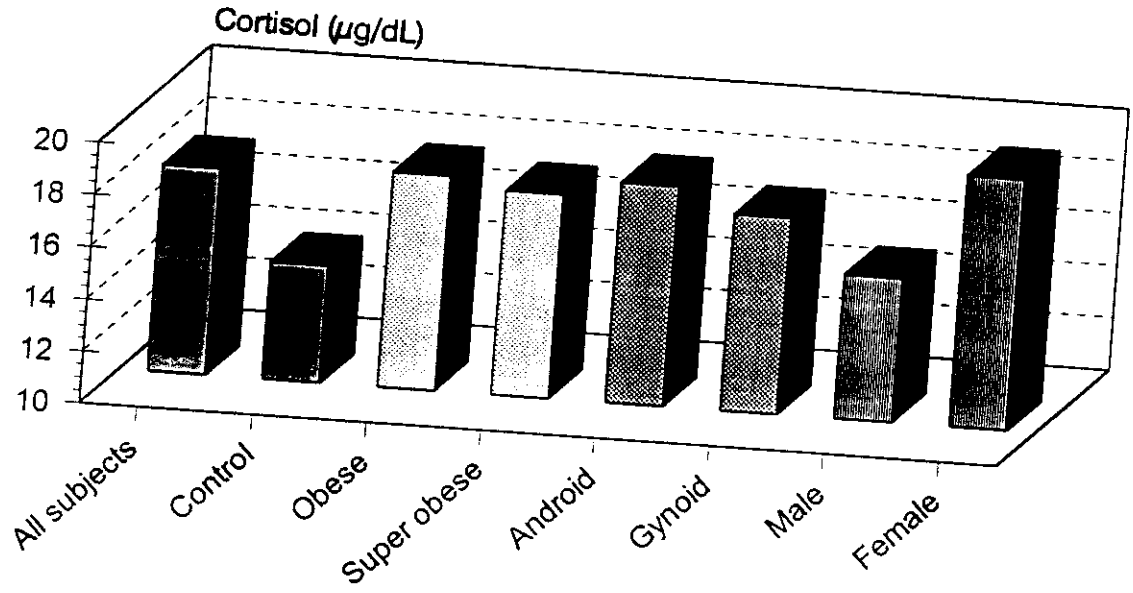


Figure:(9)

SERUM LEVELS OF CORTISOL IN DIFFERENT STUDIED GROUPS.

Table:(8)

STATISTICAL ANALYSIS OF SERUM LEVELS OF INSULIN IN DIFFERENT STUDIED GROUPS (μU/ml)

Group	Number	M	±SD	T	P
All subjects	100	28.8	24.4	6.92	<0.01
Control	20	11.4	2.8		
Obese	46	35.7	26.9	2.60	>0.05
Superobese	54	23.0	20.6		
Android	56	30.5	28.8	0.82	>0.05
Gynoid	44	26.7	17.4		
Male	40	24.8	17.6	1.46	>0.05
Female	60	31.5	27.9		

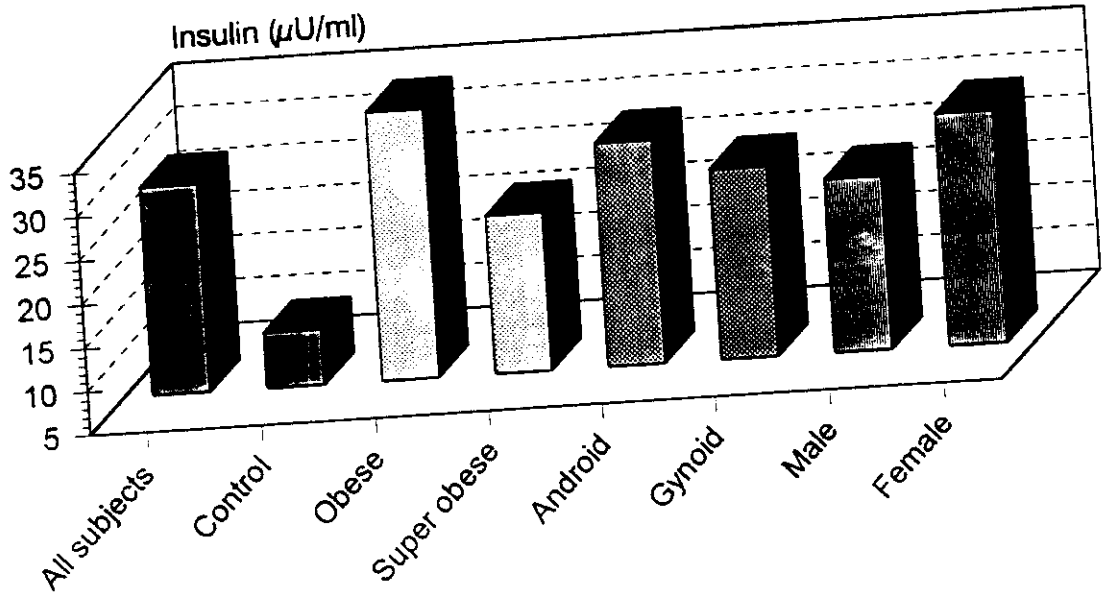


Figure:(8)

SERUM LEVELS OF INSULIN IN DIFFERENT STUDIED GROUPS.

Table:(9)

STATISTICAL ANALYSIS OF SERUM LEVELS OF TRIIODOTHYRONINE IN DIFFERENT STUDIED GROUPS

(ng/dL)

Group	Number	M	±SD	T	P
All subjects	100	143.8	25.9		
Control	20	140.8	18.8	0.51	>0.05
Obese	46	141.2	25.9		
Superobese	54	146.1	25.3	0.95	>0.05
Android	56	139.0	24.39		
Gynoid	44	149.9	26.02	2.16	>0.05
Male	40	145.0	24.0		
Female	60	143.0	26.7	0.37	>0.05

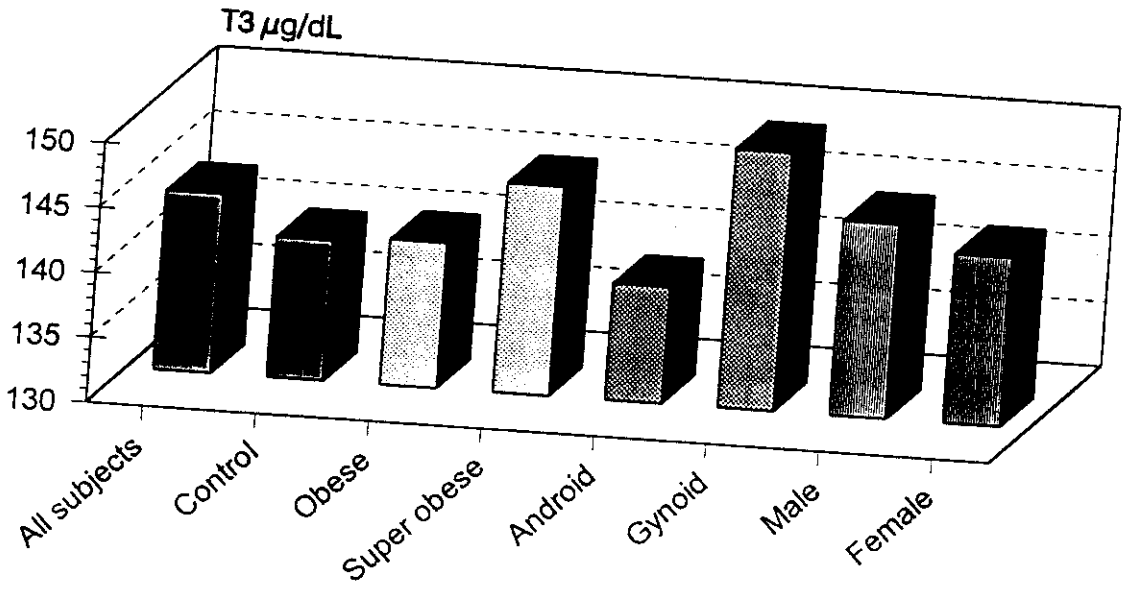


Figure:(9)

SERUM LEVELS OF T3 IN DIFFERENT STUDIED GROUPS.

Table:(13)

STATISTICAL ANALYSIS OF SERUM LEVELS OF GLUCOSE IN DIFFERENT STUDIED GROUPS (mg/dL)

Group	Number	M	±SD	T	P
All subjects	100	105.5	13.2	1.91	>0.05
Control	20	99.3	13.6		
Obese	46	105.9	11.5	0.34	>0.05
Superobese	54	105.0	14.6		
Android	56	104.8	13.3	0.53	>0.05
Gynoid	44	106.3	13.2		
Male	40	108.5	11.4	1.93	>0.05
Female	60	103.4	14.0		

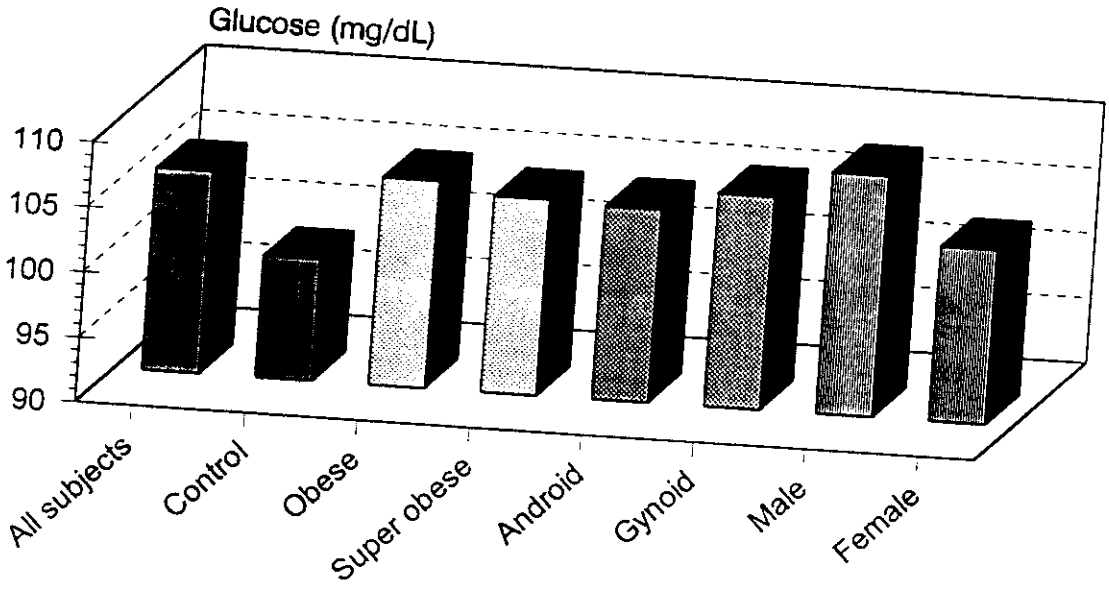


Figure:(13)

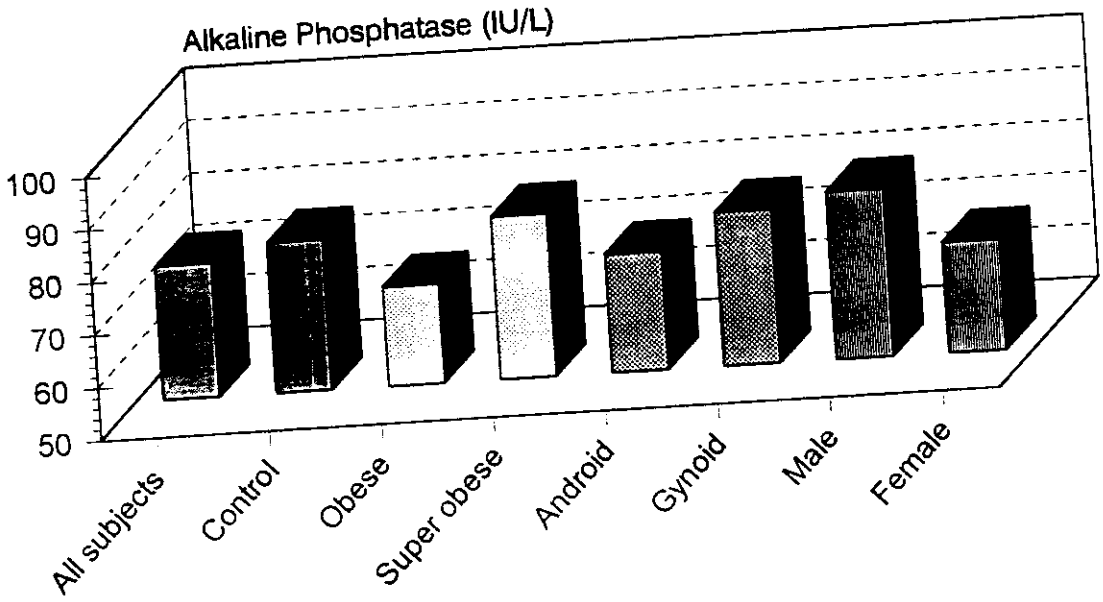
SERUM LEVELS OF GLUCOSE IN DIFFERENT STUDIED GROUPS.

Table:(14)

STATISTICAL ANALYSIS OF SERUM LEVELS OF ALKALINE PHOSPHATASE IN DIFFERENT STUDIED GROUPS

(IU/L)

Group	Number	M	±SD	T	P
All subjects	100	75.5	39.7		
Control	20	78.7	30.6	0.40	>0.05
Obese	46	68.9	37.1		
Superobese	54	81.0	41.4	1.52	>0.05
Android	56	72.5	42.7		
Gynoid	44	79.2	35.6	0.86	>0.05
Male	40	81.9	39.0		
Female	60	71.1	39.8	1.34	>0.05



Figure(14)

SERUM LEVELS OF ALKALINE PHOSPHATASE IN DIFFERENT STUDIED GROUPS

Table:(15)

STATISTICAL ANALYSIS OF SERUM LEVELS OF ASPARTATE AMINOTRANSFERASE IN DIFFERENT STUDIED GROUPS

(IU/L)

Group	Number	M	±SD	T	P
All subjects	100	18.9	8.7	0.9	>0.05
Control	20	17.3	4.1		
Obese	46	18.7	10.4	0.3	>0.05
Superobese	54	19.2	6.7		
Android	56	18.2	8.7	0.99	>0.05
Gynoid	44	19.9	8.6		
Male	40	21.7	10.9	2.4	<0.05
Female	60	17.2	6.2		

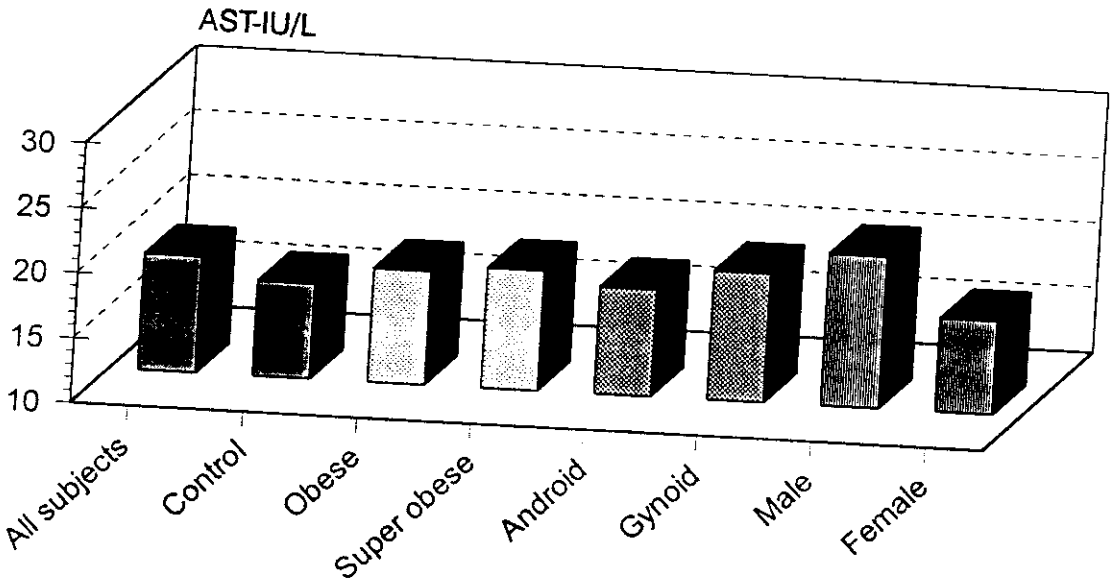


Figure (15)

SERUM LEVELS OF ASPARTATE AMINOTRANSFERASE IN DIFFERENT STUDIED GROUPS

Table:(16)

STATISTICAL ANALYSIS OF SERUM LEVELS OF ALANINE AMINOTRANSFERASE IN DIFFERENT STUDIED GROUPS

(IU/L)

Group	Number	M	±SD	T	P
All subjects	100	7.9	1.0	0.50	>0.05
Control	20	7.7	1.0		
Obese	46	7.8	1.0	0.91	>0.05
Superobese	54	7.9	0.9		
Android	56	7.7	0.8	1.51	>0.05
Gynoid	44	8.0	1.1		
Male	40	8.0	1.0	1.1	>0.05
Female	60	7.8	0.9		

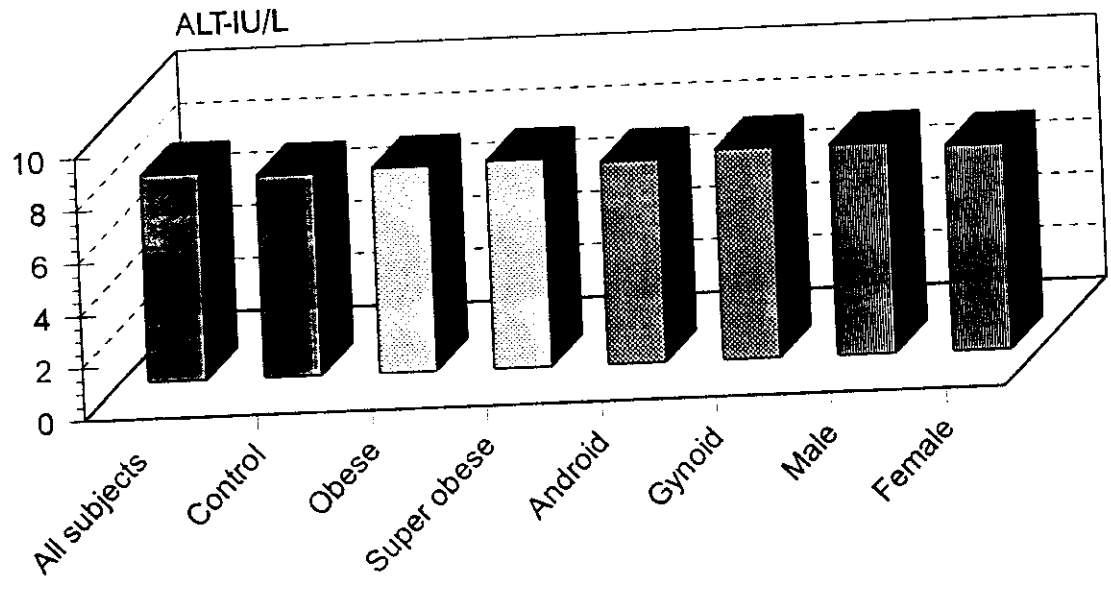


Figure (16)

SERUM LEVELS OF ALANINE AMINOTRANSFERASE IN DIFFERENT STUDIED GROUPS

Table: (17)

CORRELATION BETWEEN TOTAL CHOLESTEROL (TC) SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
HDL	0.6818	<0.01**
LDL	0.9115	<0.01**
TG	0.3873	<0.01**
APO-.A	0.2486	<0.05*
APO-.B	0.5735	<0.01**
GLUCOSE	0.1714	>0.05
CLCIUM	0.0325	>0.05
INSULIN	0.2084	<0.05*
CORTISOL	0.0192	>0.05
PTH	0.2262	<0.05*
T3	0.1300	>0.05
T4	0.0114	>0.05
WT	0.2469	<0.05*
TSK	0.2274	<0.05*
SSK.	0.2192	<0.05*
BMI	0.2165	<0.05*

**= Highly significant.
* = Significant.
TC: Total cholesterol.
HDL: High density lipoprotein.
LDL: Low density lipoprotein.
TG: Triglyceride.
Apo-A: Apolipoprotein-A.
Apo-B: Apolipoprotein-B.
PTH: Parathyroid hormone.
T3: Triiodothyronine.
T4: Thyroxine.
WT: Body weight.
TSK: Triceps skinfold thickness.
SSK: Subscapular skinfoldthickness.

Table: (18)

CORRELATION BETWEEN HIGH DENSITY LIPOPROTEIN (HDL) SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
TC	0.6818	<0.01**
LDL	0.6847	<0.01**
TG	0.3352	<0.01**
APO-.A	0.2787	<0.01**
APO-.B	0.5962	<0.01**
GLUCOSE	-0.4172	<0.01**
CLCIUM	0.0977	>0.05
INSULIN	0.1413	>0.05
CORTISOL	0.0484	>0.05
PTH	0.1636	>0.05
T3	0.1051	>0.05
T4	0.0690	>0.05
WT	0.0346	>0.05
TSK	0.1817	>0.05
SSK.	0.0498	>0.05
BMI	0.0678	<0.05*

**= Highly significant.

* = Significant.

Table: (19)

CORRELATION BETWEEN SERUM LOW DENSITY LIPOPROTEIN (LDL) SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
TC	0.9115	<0.01**
HDL	0.6847	<0.01**
TG	0.4225	<0.01**
APO-.A	0.1936	>0.05
APO-.B	0.5421	<0,01**
GLUCOSE	-0.2569	<0.01**
CALCIUM	-0.0289	>0.05
INSULINE	0.2807	<0.05*
CORTISOL	0.0865	>0.05
PTH	0.2198	<0.05*
T3	0.1145	>0.05
T4	-0.0037	>0.05
WT	0.2671	<0.05*
TSK	0.2442	<0.05*
SSK	0.2999	<0.05*
BMI	0.2812	<0.05*

**= Highly significant.

* = Significant.

Table: (20)

CORRELATION BETWEEN TRIGLYCERIDE (TG) SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
TC	0.3873	<0.01**
HDL	0.3352	<0.01**
LDL	0.4225	<0.01**
APO-.A	0.1340	>0.05
APO-.B	0.0981	>0.05
GLUCOSE	0.1929	>0.05
CALCIUM	-0.0417	>0.05
INSULINE	0.2787	<0.01**
COTISOL	0.2035	<0.05*
PTH	0.2178	<0.05*
T3	0.1834	>0.05
T4	0.0078	>0.05
WT	0.2617	<0.05*
TSK	0.2420	<0.05*
SSK	0.2487	<0.05*
BMI	0.2861	<0.01**

**= Highly significant.

* = Significant.

Table: (21)

CORRELATION BETWEEN APOLIPOPROTEIN A (APO-A) SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
CHOLESTEROL	0.2486	<0.05*
HDL	0.2787	<0.01**
LDL	0.1936	>0.05
TRIGLYCERIDE	0.1340	>0.05
APOL.B	0.5551	<0.01**
GLUCOSE	-0.2192	<0.05*
CALCIUM	0.1801	>0.05
INSULINE	0.1173	>0.05
CORTISOL	0.2481	<0.05
PTH	0.1570	>0.05
T3	0.2408	<0.05*
T4	0.1036	>0.05
WT	0.0824	>0.05
TSK	0.0018	>0.05
SSK	-0.1153	>0.05
BMI	-0.0737	>0.05

**= Highly significant.

* = Significant.

Table: (22)

CORRELATION BETWEEN APOLIPOPROTEN B (APO-B) SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
TC	0.5735	<0.01**
HDL	0.5962	<0.01**
LDL	0.5421	<0.01**
TRIGLY	0.0981	>0.05
APOL. A	0.5551	<0.01**
GLUCOSE	0.3085	<0.01**
CALCIUM	0.2642	<0.01**
INSULINE	0.2092	<0.05*
CORTISOL	0.2062	<0.05*
PTH	0.0521	>0.05
T3	0.0401	>0.05
T4	0.0932	>0.05
WT	0.2729	<0.05*
TSK	0.0835	>0.05
SSK	0.1218	>0.05
BMI	0.2612	<0.05*

**= Highly significant.

* = Significant.

Table: (23)

CORRELATION BETWEEN INSULIN SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
CHOLESTEROL	0.2084	<0.05+
HDL	0.1413	>0.05
LDL	0.2807	<0.01**
TRIGLYCER	0.2787	<0.01**
APOL.A	0.1173	>0.05
APOL.B	0.2092	<0.05*
GLUCOSE	0.0621	>0.05
CALCIUM	0.0785	>0.05
CORTISOL	0.2560	<0.05*
PTH	0.0322	>0.05
WT	0.2321	<0.05*
TSK	0.0865	>0.05
SSK	0.2020	>0.05
BMI	0.2412	<0.05*
T3	0.0702	>0.05
T4	0.1030	>0.05

**= Highly significant.

* = Significant.

Table: (24)

CORRELATION BETWEEN CORTISOL SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
TC	0.0192	>0.05
HDL	0.0484	>0.05
LDL	0.0865	>0.05
TG	0.2035	<0.05*
APO-.A	0.2481	<0.05*
APO-.B	0.2062	<0.05*
GLUCOSE	0.0818	>0.05
CALCIUM	0.1109	>0.05
INSULINE	0.2560	<0.05*
PTH	0.0121	>0.05
T3	-0.0101	>0.05
T4	0.0389	>0.05
WT	0.0337	>0.05
TSK	0.1379	>0.05
SSK	0.1443	>0.05
BMI	0.0816	>0.05

**= Highly significant.

* = Significant.

Table: (25)

CORRELATION BETWEEN PARATHYROID HORMONE (PTH) SERUM LEVELS AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
TC	0.2262	<0.05*
HDL	0.1636	>0.05
LDL	0.2198	<0.05*
TG	0.2178	<0.05*
APO-.A	0.1570	>0.05
APO-.B	0.0521	>0.05
GLUCOSE	0.0332	>0.05
CALCIUM	0.0822	>0.05
INSULIN	0.0322	>0.05
CORTISOL	0.0121	>0.05
T3	0.0600	>0.05
T4	0.0559	>0.05
WT	0.2361	<0.05*
TSK	0.1141	>0.05
SSK	0.1163	>0.05
BMI	0.2146	<0.05*

**= Highly significant.

* = Significant.

Table: (29)

CORRELATION BETWEEN BODY MASS INDIX (BMI) AND OTHER INVESTIGATIVE MEASURES IN OBESE CHILDREN

	r	P
TC	0.2165	<0.05*
HDL	0.0678	>0.05
LDL	0.2812	<0.05*
TG	0.2862	<0.05*
APO-.A	-0.0737	>0.05
APO-.B	0.2621	<0.05*
GLUCOSE	0.0755	>0.05
CALCIUM	-0.0289	>0.05
INSULINE	0.2412	<0.05*
CORTISOL	0.0816	>0.05
PTH	0.2146	<0.05*
T3	>0.0208	>0.05
T4	>0.0654	>0.05
WT	0.2211	<0.01**
TSK	0.4992	<0.01**
SSK	0.5494	<0.01**

**= Highly significant.

* = Significant.