Results

The results of the present study are statistically analyzed ,summarized and presented in tables (5-19) and figures (13-25).

Table (5): Descriptive statistics of all subjects included in the study

Group I (patient group)				
	Mean	**±SD**	**Minimum**	**Maximum**
Age(years)	35.7	±6.63	29	59
BMI (kg/ m^2)	45.07	±5.9	36	59
WC (cm)	105.4	±8.8	90	125
FBS (mg/dl)	142.4	±44.2	80	277
TC (mg/dl)	218.1	±34.8	170	314
TG(mg/dl)	181.8	±32.8	91	240
HDL-c(mg/dl)	39.1	±6.01	28	57
LDL-c(mg/dl)	142.6	±31.3	100	210
SBP(mm Hg)	138.9	±13.8	120	180
DBP(mm Hg)	88.4	±6.3	80	110
Insulin Level(µU/mL)	15.2	±7.1	6	30
HOMA-IR	5.01	±2.02	1.5	8
MCP-1(pg/ml)	355.1	±194.6	26	1016
Group II (control group)				
	Mean	**±SD**	**Minimum**	**Maximum**
Age(years)	32.27	2.84	29	59
BMI (kg/ m^2)	21.9	±2.9	18.2	24.7
WC (cm)	74	±5.7	65	83
FBS (mg/dl)	83.7	±10.3	70	106
TC (mg/dl)	164	±12.5	146	182
TG(mg/dl)	80.6	±9.3	65	93
HDL-c(mg/dl)	52.8	±7.3	44	70
LDL-c(mg/dl)	94	±31.8	66	115
SBP(mm Hg)	120	±0	120	120
DBP(mm Hg)	80	±0	80	80
Insulin Level(µU/mL)	12.6	2.9	7.5	17.5
HOMA-IR	2.8	.55	1.6	3.5
MCP-1(pg/ml)	38.2	±21.6	16	87

Table (6): Comparison between Group I and Group II as regards BMI and WC.

	Group I (n=50)		Group II (n=20)		St."t"	P
	Mean	**±SD**	**Mean**	**±SD**		
BMI(kg/m^2)	45.07	±5.9	21.9	±2.1	17.1	**<0.001**
WC (cm)	105.4	±8.8	74.00	±5.7	14.7	**<0.001**

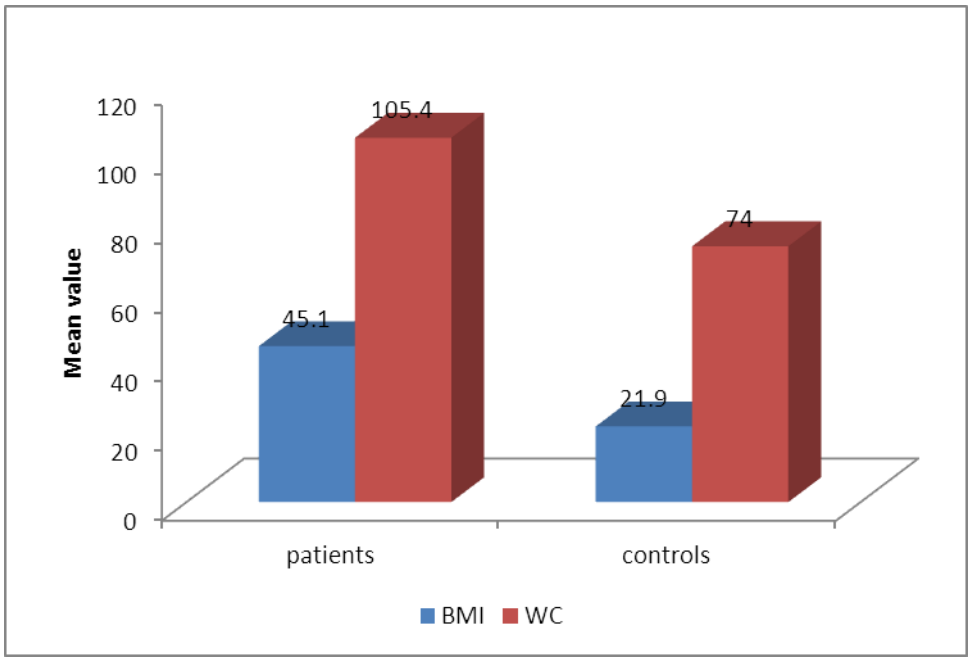


Figure (13): Comparison between the two groups as regards BMI,WC**.**

Comparative statistics between patient group (Group I) and control group (Group II) as regards the mean BMI and WC showed a statistically significant increase in BMI and WC in group I versus group II (P<0.001)(table 6)(Figure 13).

Table (7): Comparison between Group I and Group II as regards serum levels of MCP-1

	Group I (n=50)		Group II (n=20)		St."t"	P
	Mean	**±SD**	**Mean**	**±SD**		
MCP-1(pg/ml)	355.1	±194.6	38.2	±21.6	7.2	**<0.001**

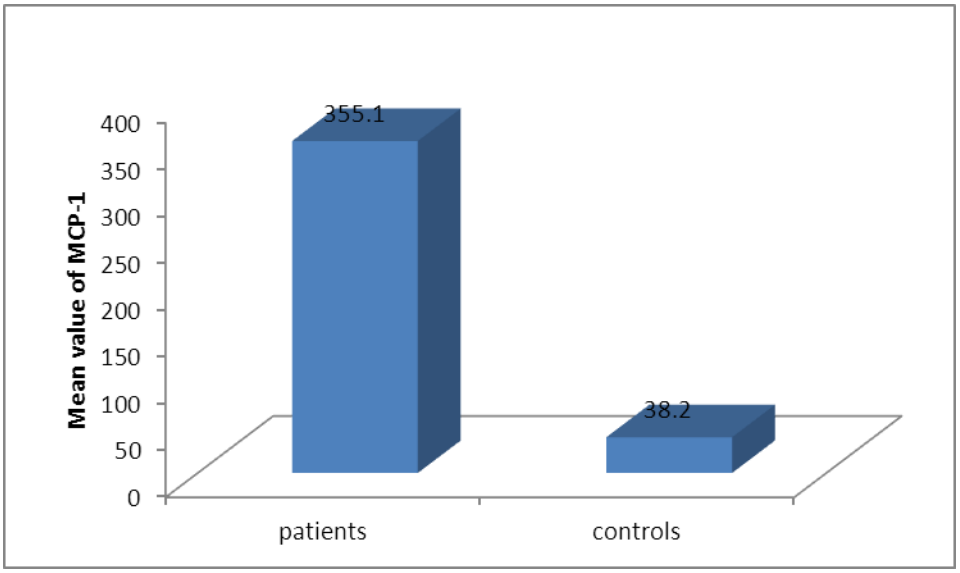


Figure (14): Comparison between the two groups as regards MCP-1**.**

Comparative statistics between patient group (Group I) and control group (Group II) as regards the mean MCP-1 level showed a statistically significant increase in MCP-1 level in group I versus group II (P<0.001).

Table (8): Comparison between Group I and controls as regards serum levels of CRP

	Group I (n=50)		Controls (n=20)		Z	P
	Frequency	Percent	Frequency	Percent		
<6(mg/dl)	1	2.0	20	100.0	-8.1	**<0.001**
6(mg/dl)	15	30.0	0	0.0	2.8	**<0.01**
12(mg/dl)	18	36.0	0	0.0	3.1	**<0.001**
24(mg/dl)	16	32.0	0	0.0	2.9	**<0.01**
Total	50	100.0	20	100.0		

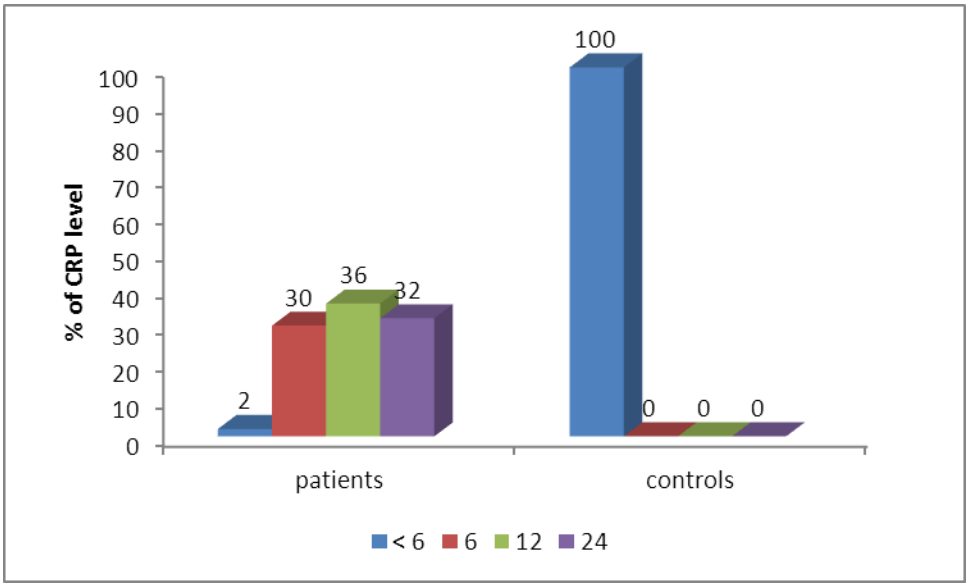


Figure (15): Comparison between the two groups as regards CRP**.**

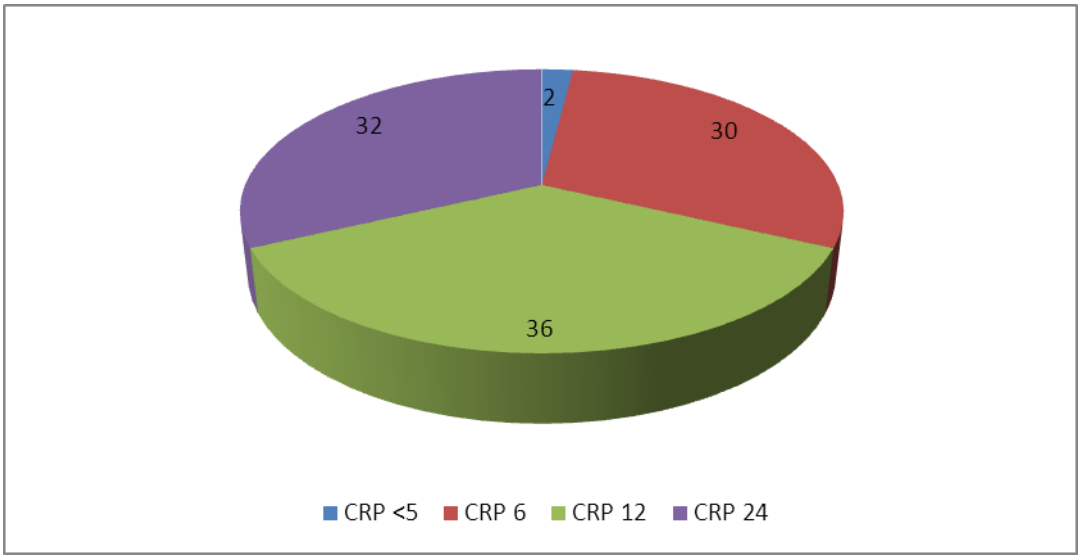


Fig.(16): Chart 2 percentage of the studied sample according to CRP level

As regards the positivity of CRP level a statistically significant increase in CRP level was found in group I versus group II (P<0.001).

Table (9): Comparison between group I and group II as regards total cholesterol, triglycerides, HDL and LDL.

	Group I (n=50)		**Group II (n=20)**		**St."t"**	**P**
	Mean	**±SD**	**Mean**	**±SD**		
TC (mg/dl)	218.1	±34.8	164	±12.5	6.8	**<0.001**
TG(mg/dl)	181.8	±32.8	80.6	±9.3	13.5	**<0.001**
HDL-c(mg/dl)	39.1	±6	52.8	±7.3	8.1	**<0.001**
LDL-c(mg/dl)	142.6	±31.3	94.7	±13.8	6.6	**<0.001**

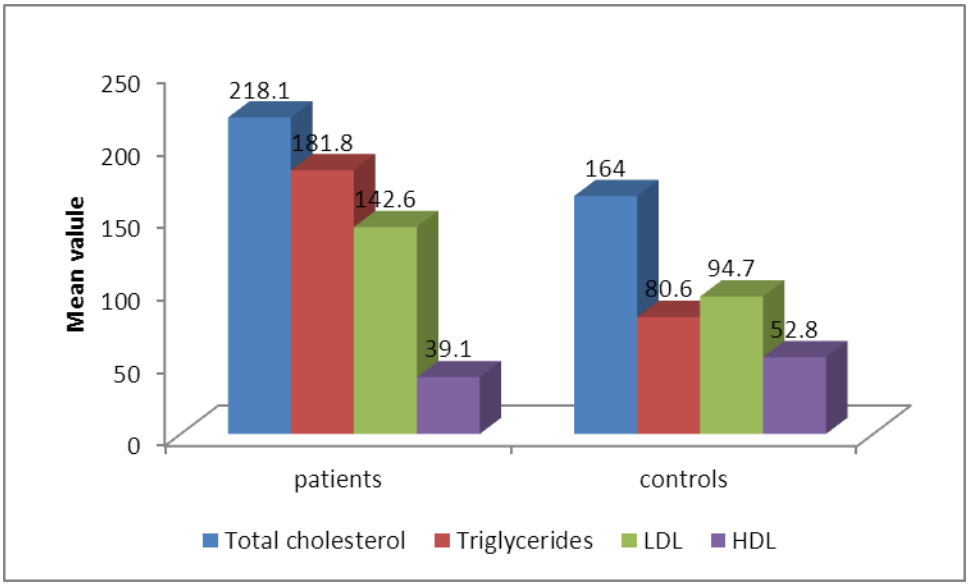


Figure (17): Comparison between the two groups as regards lipid profile**.**

On comparing the lipid profile among the studied groups, a statistically significant increase in group I versus group II as regards the mean total cholesterol, triglycerides, HDL-cholesterol and LDL-cholesterol levels (P<0.001).

Table (10): Comparison between group I and group II as regards F.B.S, Insulin level and HOMA-IR

	Group I (n=50)		**Group II (n=20)**		**St."t"**	**P**
	Mean	**±SD**	**Mean**	**±SD**		
FBS (mg/dl)	142.2	±44.2	83.7	±10.3	5.9	**<0.001**
Insulin Level(µU/mL)	15.2	±7.1	12.6	±2.9	1.6	**>0.05**
HOMA-IR	5.01	±2.02	2.8	±0.55	4.8	**<0.001**

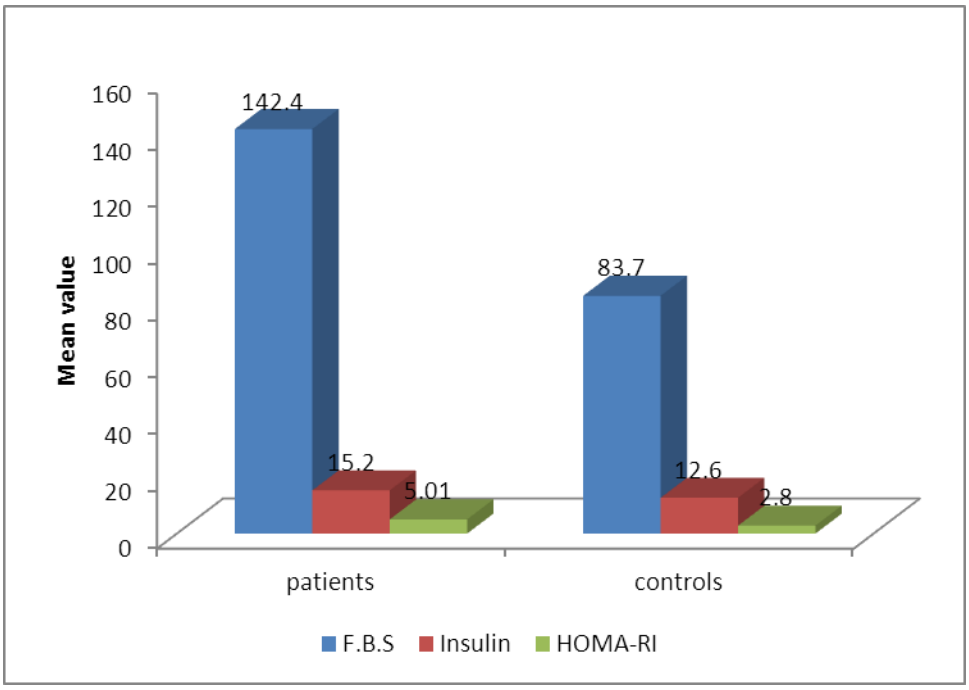


Figure (18): Comparison between the two groups as regards F.B.G, Insulin andHOMA-IR**.**

On comparing F.B.S, Insulin level and HOMA-IR among the studied groups, a statistically significant increase was found in group I versus group II as regards serum levels of F.B.S, and HOMA-IR (P<0.001).

Table (11): Comparison between each of group I versus group II (control group) as regards systolic and diastolic blood pressure.

	Systolic blood pressure (mm Hg)	**Diastolic blood pressure (mm Hg)**
	Mean±SD	**Mean±SD**
Group I	138.9± 13.8	88.4± 6.3
Control	120 ± 0	80± 0
St."t"	6.1	5.9
P	**<0.001**	**<0.001**

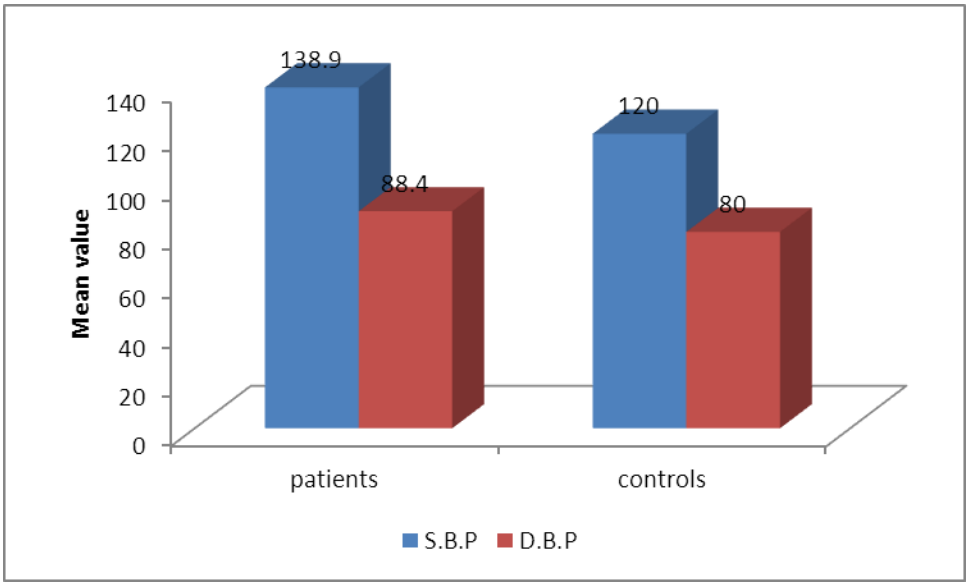


Figure (19): Comparison between the two groups as regardS.B.P&D.B.P**.**

As regards systolic and diastolic blood pressure, there was a statistically significant increase in group I versus group II (P<0.001).

Table (12): Correlation between serum levels of MCP-1 and other variables among group I.

	MCP-1 Group I	
	r	**P**
BMI(kg/m^2)	0.72	**<0.001**
WC (cm)	0.5	**<0.001**
TC (mg/dL)	0.05	**>0.05**
TG (mg/dL)	0.3	**<0.05**
HDL-C (mg/dL)	-0.49	**<0.001**
LDL-C (mg/dL)	0.16	**>0.05**
Insulin level(μU/mL)	-0.03	**>0.05**
HOMA-IR	0.04	**>0.05**
FBG(mg/dl)	0.03	**>0.05**
SBP (mm Hg)	0.12	**>0.05**
DBP (mm Hg)	0.26	**>0.05**
No of components	0.71	**<0.001**

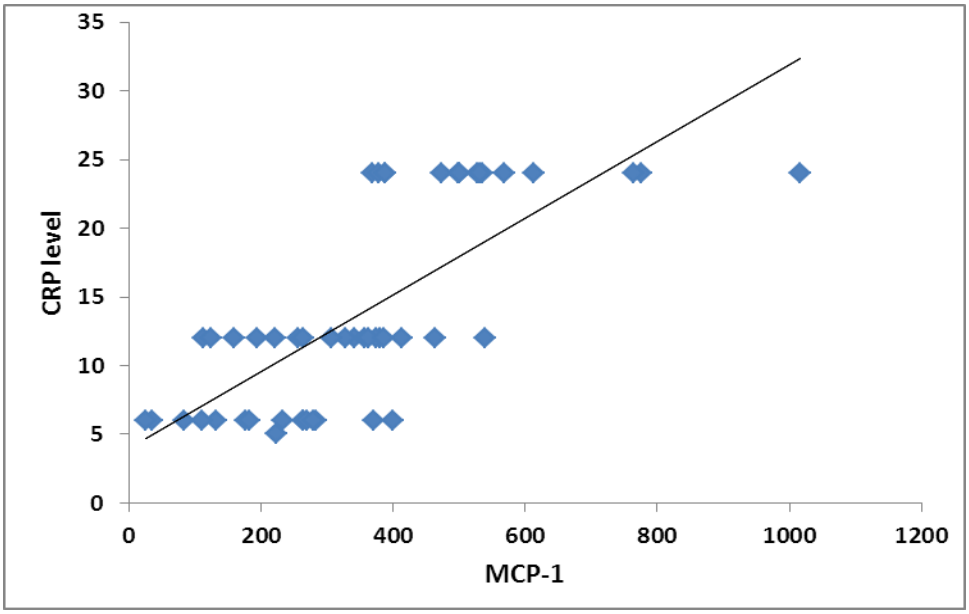


Fig.(20):Correlation between MCP-1 & CRP level

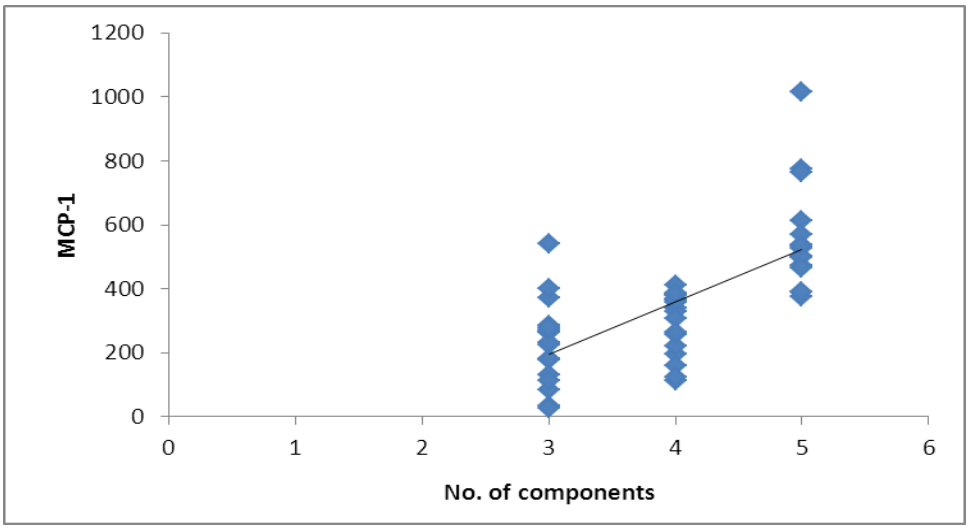


Fig.(21):Correlation between MCP-1 and no. of components

Upon studying patient group (groupI) correlation tests have revealed a positive correlation between MCP-1 and each of BMI,WC, total cholesterol ,Triglyceride, LDL-cholesterol, F.B.S, HOMA-IR and it was significant with BMI(r=0.72,p<0.001) ,WC (r=0.5,p<0.001),TG (r=0.3,p<0.001) and the accumulation of the number of components of metabolic syndrome (r=0.71,p<0.001) There was a significant negative correlation with HDL-cholesterol (r=-0.49,p<0.001).

Table (13): Correlation between serum levels of MCP-1 and other variables among group II.

	MCP-1 Group II	
	r	**P**
BMI(kg/m^2)	0.92	**<0.001**
WC (cm)	0.78	**<0.001**
TC (mg/dL)	0.15	**>0.05**
TG (mg/dL)	0.35	**>0.05**
HDL-C (mg/dL)	-0.11	**>0.05**
LDL-C (mg/dL)	0.003	**>0.05**
Insulin level(μU/mL)	0.13	**>0.05**
HOMA-IR	0.24	**>0.05**
FBG (mg/dl)	0.01	**>0.05**

Upon studying control group (groupII) correlation tests have revealed a positive correlation between MCP-1 and each of BMI,WC, total cholesterol ,Triglyceride, LDL-cholesterol, F.B.S, HOMA-IR and it was significant with BMI(r=0.92,p<0.001) ,WC (r=0.78,p<0.001).There was a negative correlation with HDL-cholesterol.

Table (14): Correlation between serum levels of CRP and other variables among group I.

	CRP Group I	
	r	**p**
MCP-1(pg/ml)	0.74	**<0.001**
BMI(kg/m^2)	0.62	**<0.001**
WC (cm)	0.38	**<0.01**
TC (mg/dL)	0.002	**>0.05**
TG (mg/dL)	0.2	**>0.05**
HDL-C (mg/dL)	-0.58	**<0.001**
LDL-C (mg/dL)	0.07	**>0.05**
Insulin level(μU/mL)	0.02	**>0.05**
HOMA-IR	0.14	**>0.05**
FBG (mg/dl)	0.24	**>0.05**
SBP (mm Hg)	0.32	**<0.05**
DBP (mm Hg)	0.38	**<0.05**
No of components	0.92	**<0.001**

Upon studying patients' (group I) correlation tests have revealed a positive correlation between CRP and each of MCP-1, BMI,WC, total cholesterol ,Triglyceride, LDL-cholesterol, F.B.S, Insulin level, HOMA-IR , Systolic and Diastolic blood pressure and the accumulation of the number of components of metabolic syndrome which was significant with MCP-1 (r=0.74,p<0.001),BMI(r=0.62,p<0.001),wc(r=0.38,p<0.01)

Systolic blood pressure (r=0.32,p<0.05) and Diastolic blood pressure (r=0.38,p<0.05) and the accumulation of the number of components of metabolic syndrome (r=0.92,p<0.001).There was a significant negative correlation with HDL-cholesterol (r=-0.58,p<0.001).

Table (15): Correlation between serum level of Insulin and other variables among group I.

	Insulin Group I	
	r	**p**
BMI(kg/m^2)	0.18	**>0.05**
WC (cm)	0.26	**>0.05**
HOMA-IR	0.83	**<0.01**
FBG(mg/dl)	-0.19	**>0.05**
MCP-1(pg/ml)	0.03	**>0.05**
No of components	0.04	**>0.05**

Upon studying patient group (groupI) correlation tests have revealed a significant positive correlation between Insulin level and HOMA-IR(r=0.83,p<0.01) , positive correlation between Insulin level and each of BMI,WC,MCP-1, the accumulation of the number of components and a negative correlation with F.B.S.

Table (16): Correlation between serum level of Insulin and other variables among group II.

	Insulin Group II	
	r	**P**
BMI(kg/m^2)	0.07	**>0.05**
WC (cm)	0.13	**>0.05**
HOMA-IR	0.62	**<0.01**
FBG(mg/dl)	-0.07	**>0.05**
MCP-1(pg/ml)	0.13	**>0.05**
No of components	0.04	**>0.05**

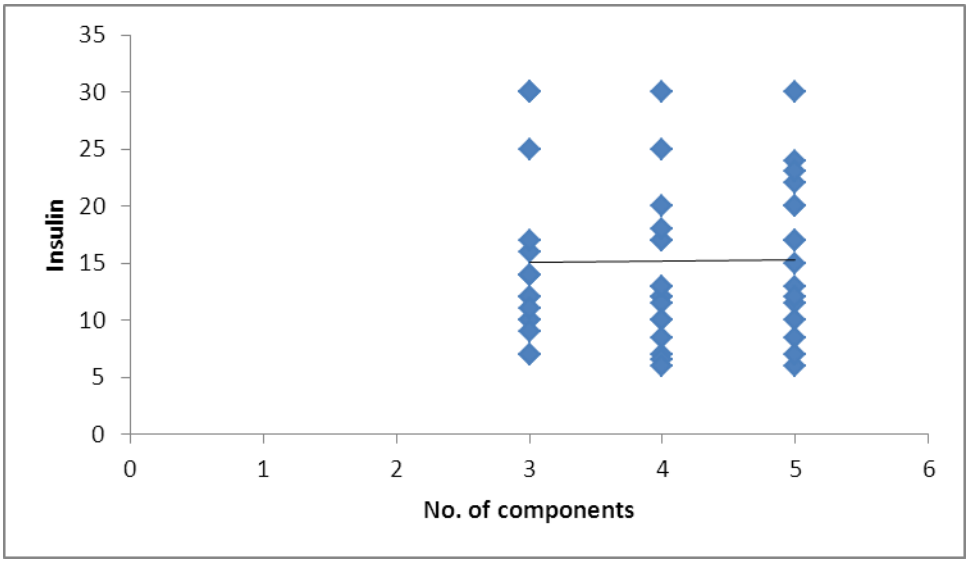


Fig.(22): Correlation between no. of components and Insulin

Upon studying control group (groupII) correlation tests have revealed a, a positive correlation between Insulin level and each of BMI,WC,MCP-1 which was significant between Insulin level and HOMA-IR (r=0.62,p<0.01) and there was a negative correlation with

F.B.S. Upon studying patient group (groupI) correlation tests have revealed a positive correlation between HOMA-IR and each of BMI, WC, MCP-1,F.B.S and number of components.

Table (17): Correlation between HOMA-IR and other variables among group I.

	HOMA-IR Group I	
	r	**p**
BMI(kg/m^2)	0.14	**>0.05**
WC (cm)	0.17	**>0.05**
FBS (mg/dl)	0.29	**<0.05**
MCP-1(pg/ml)	0.04	**>0.05**
No of components	0.16	**>0.05**

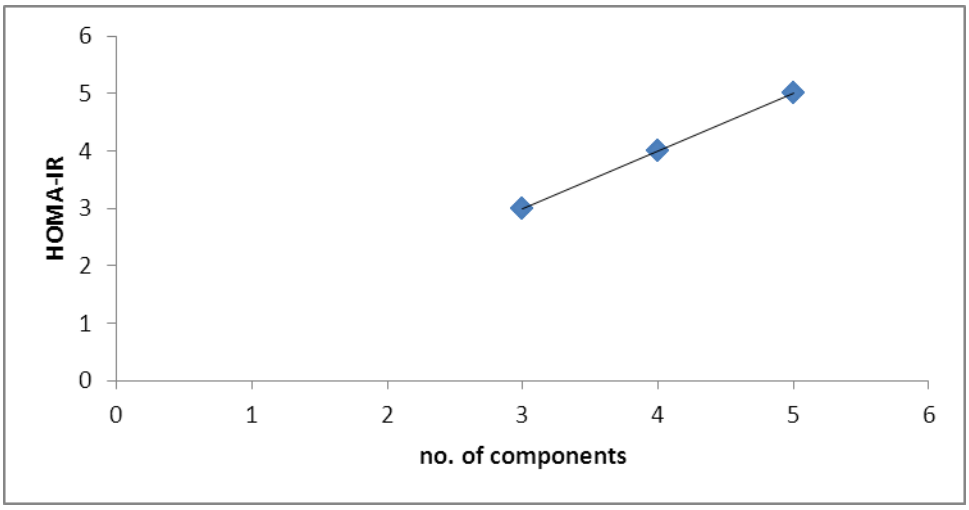


Fig.(23): Correlation between no. of components and HOMA-IR

Upon studying control group (groupI) correlation tests have revealed a positive correlation between HOMA-IR and each of BMI,WC,MCP-1, F.B.S and number of components which was significant between FBG level and HOMA-IR (r=0.29,p<0.05).

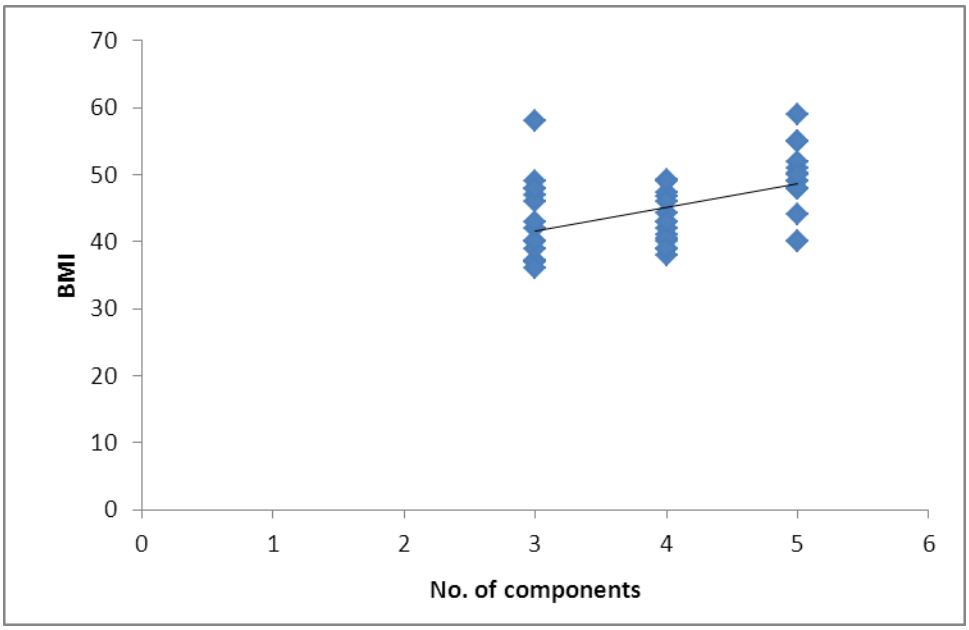
Table (18): Correlation between HOMA-IR and other variables among group I.

	HOMA-IR Group II	
	r	**P**
BMI(kg/m^2)	0.15	**>0.05**
WC(cm)	0.04	**>0.05**
FBG(mg/dl)	0.07	**>0.05**
MCP-1(pg/ml)	0.24	**>0.05**

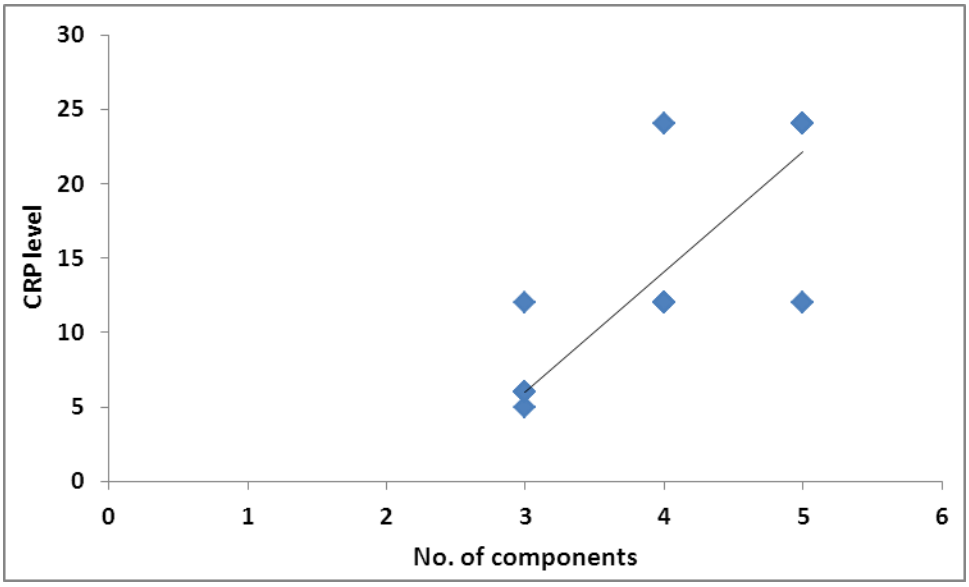
Upon studying control group (groupII) correlation tests have revealed a positive correlation between HOMA-IR and each of BMI,WC,MCP-1, and F.B.S.

Table (19): Correlation between number of components and other variables among group I (patient group).

	No of components Group I	
	r	**P**
HOMA-IR	0.16	**>0.05**
CRP(mg/dl)	0.92	**<0.001**
Insulin(μU/mL)	0.04	**>0.05**
MCP-1(pg/ml)	0.71	**<0.001**
BMI(kg/m^2)	0.52	**<0.001**



Fig(24): Correlation between no. of components and BMI



Fig(25) : Correlation between no. of components and CRP

Upon studying patient group (group I) correlation tests have revealed a positive correlation between number of components and each of HOMA-IR , Insulin level,CRP,MCP-1 and BMI which was significant with CRP(r=0.92,p<0.001),MCP-1(r=0.71,p<0.001)and BMI(r=0.52,p<0.001)