RESULTS

The results of the present study are statistically analyzed, summarized and presented in 11 tables and 14 figures.

Table (5): Distribution of the studied groups according to gender

Gender		group		Total
		control group	Patient group	
male	Number	11	38	49
	% within group	55%	54.3%	54.8%
female	Number	9	32	41
	% within group	45%	45.7%	45.2%
Total	Number	20	70	90
	% within group	100.0%	100.0%	100.0%

X^2= 1.57 **P>0.05**

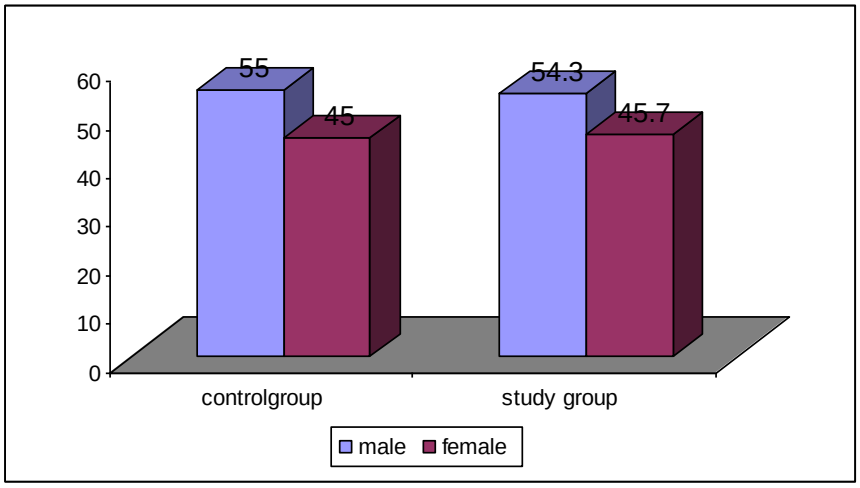

Figure (11): Comparison between studied groups as regard gender

There is no significant difference between studied groups as regard gender

Table (6): Comparison between studied groups as regard age, BMI, waist circumference and blood pressure

Parameter \ Group	Control group (N=20)		Patient group (N=70)		Student "t"	p
	Mean	±SD	Mean	±SD		
Age (in years)	43.7	6.6	46.6	6.04	-1.8	>0.05
BMI (Kg/m2)	21.1	1.4	29.6	3.9	-9.5	<0.001
Waist circumference(cm)	77.9	6.4	109.6	11.3	-11.9	<0.001
Blood pressure(sys./diast.)(mm/Hg)	115.1 /80	9.4 /10.3	140.4 /93.9	13.3/5 .8	-7.9 (S) -7.8 (D)	<0.001 <0.001

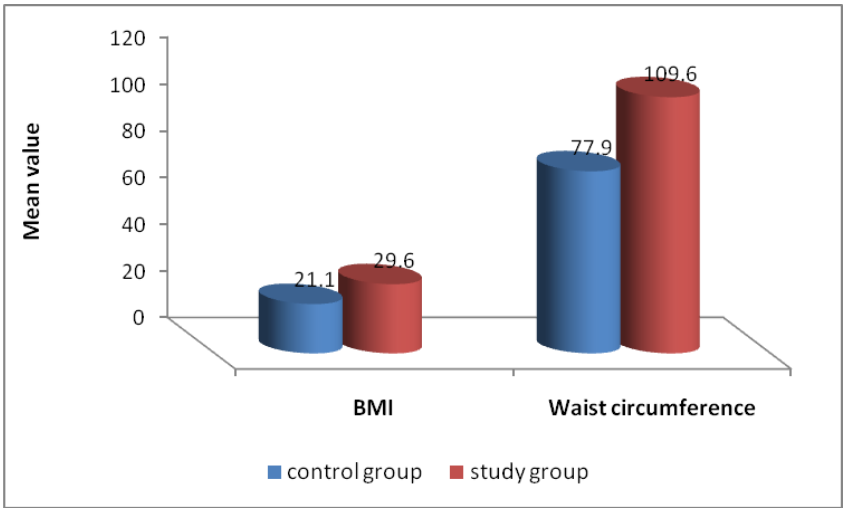

Figure (12): Comparison between studied groups as regard BMI and waist circumference

- There is significant increase in WC and BMI in patient group (P<0.001)
- There is not significant difference as regard age
- There is a statistically significant increase in blood pressure in patient group versus control group (P<0.001)

Table (7): Comparison between studied groups as regard creatinine , uric acid and fasting blood sugar

Group / Parameter	Control group (N=20)		Patient group (N=70)		Student "t"	p
	Mean	±SD	Mean	±SD		
Creatinine (mg/dl)	0.76	0.17	1.08	1.00	-1.4	>0.05
Uric acid (mg/dl)	4.06	0.78	6.18	0.73	-11.2	<0.001
Fasting blood sugar(mg/dl)	85.8	11.44	192.9	64.4	-7.4	<0.001

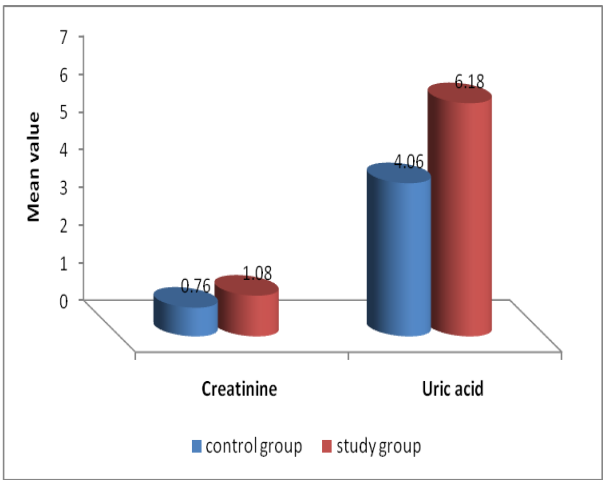

Figure (13): Comparison between studied groups as regard creatinine and uric acid

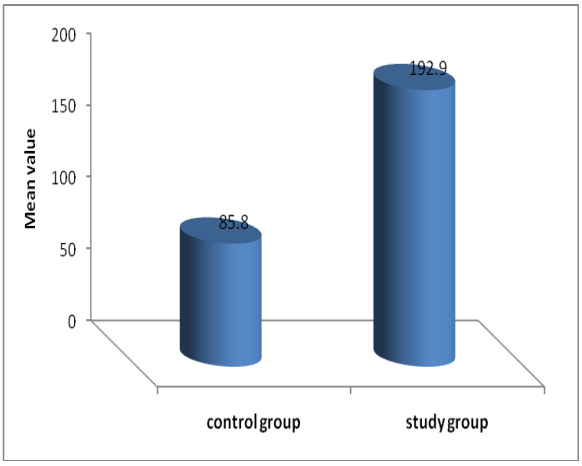

Figure (14): Comparison between studied groups as regard fasting blood sugar.

- There is a statistically significant increase in uric acid in patient group versus control group (P<0.001)
- There is no significant difference between both groups as regarding creatinine level.
- There is a statistically significant increase in fasting blood sugar in patient group versus control group (P<0.001)

Table (8): Comparison between studied groups as regard lipid profile

Parameter \ Group	Control group (N=20)		Patient group (N=70)		Student "t"	p
	Mean	±SD	Mean	±SD		
T.cholesterol (mg/dl)	149.1	22.07	221.8	39.90	7.8	<0.001
TG (mg/dl)	62.25	18.01	197.2	62.57	9.5	<0.001
HDL(mg/dl)	73.15	24.67	31.66	5.23	-13.2	<0.001
LDL(mg/dl)	18.93	33.12	151.9	38.8	13.9	<0.001

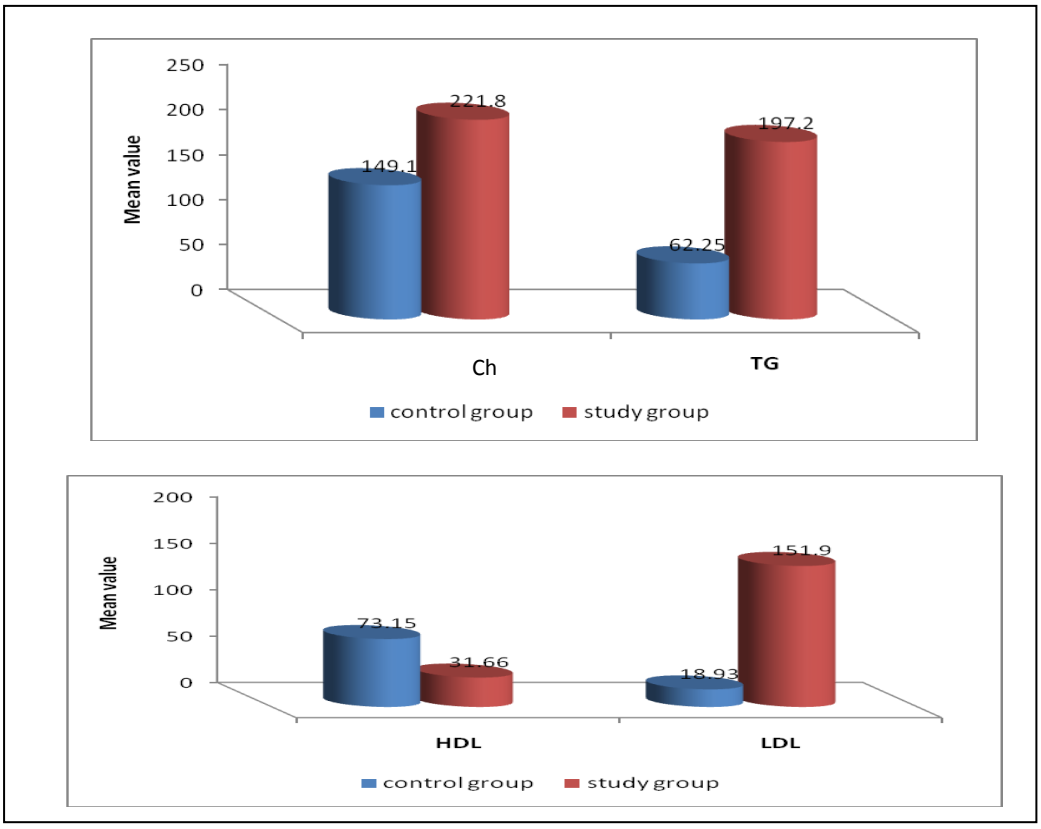

Figure (15): Comparison between studied groups as regard lipid profile

- There is a statistically significant increase in the mean total cholesterol, triglycerides and LDL-cholesterol levels in patient group versus control group (P<0.001)
- There is a statistically significant decrease in HDL cholesterol in patient group versus control group.

Table (9): Comparison between studied groups according to HS CRP and PEDF

Group / Parameter	Control group (N=20)		Patient group (N=70)		Student "t"	p
	Mean	±SD	Mean	±SD		
HS-CRP(mg/L)	0.87	0.23	4.30	1.15	10.5	<0.001
PEDF(mg/L)	27.99	6.86	56.38	10.78	-11.1	<0.001

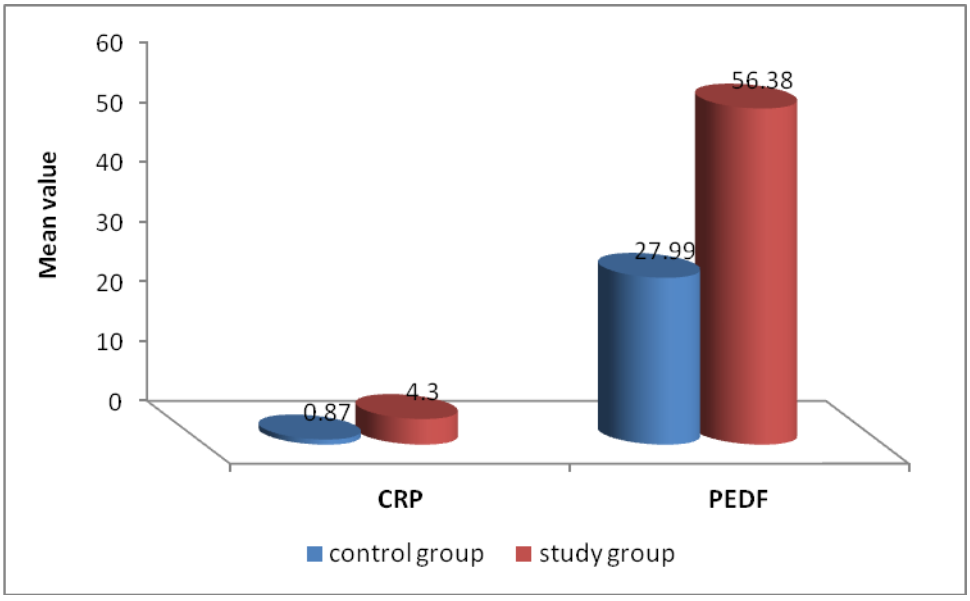

Figure (16): Comparison between studied groups according to HS CRP and PEDF

- There is a statistically significant increase in HS CRP in patient group versus control group (P<0.001)
- There is a statistically significant increase in PEDF in patient group versus control group (P<0.001)

Table (10) Correlation between PEDF and BMI & waist circumference

PEDF / With	r	P
BMI (Kg/m2)	0.346	<0.01
Waist circumference(cm)	0.354	<0.01

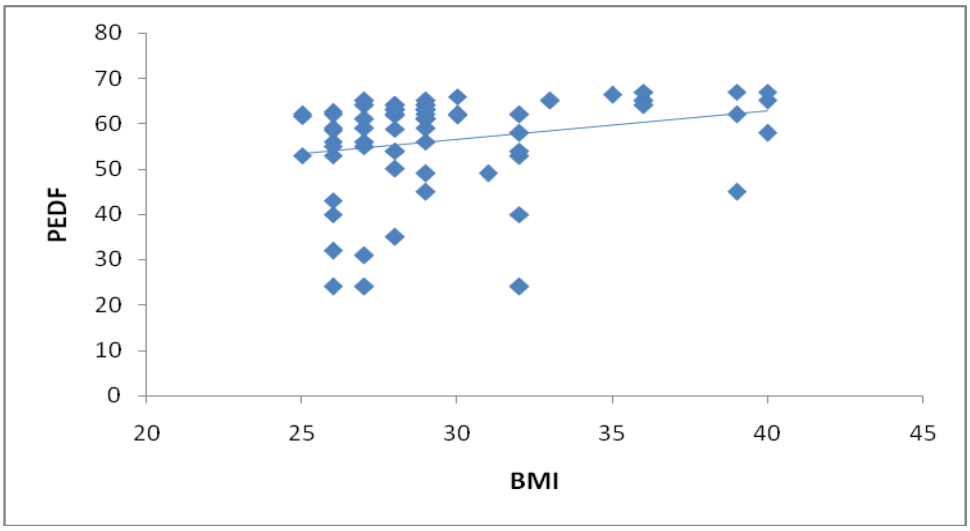

Figure (17): Correlation between PEDF and BMI

There is a significant positive correlation between PEDF and each of BMI and WC.

Table (11): Correlation between PEDF and lipid profile

With \ PEDF	r	P
Cholesterol(mg/dl)	0.308	=0.01
Triglycerides(mg/dl)	0.325	<0.01
HDL(mg/dl)	-0.307	<0.01
LDL(mg/dl)	0.190	>0.05

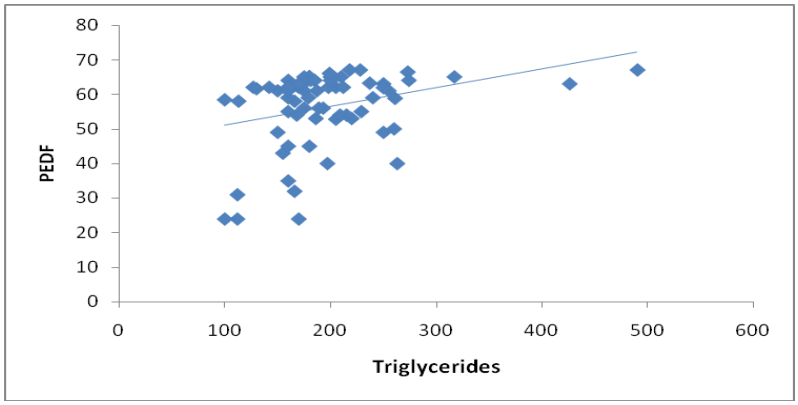

Figure (18): Correlation between PEDF and Triglycerides

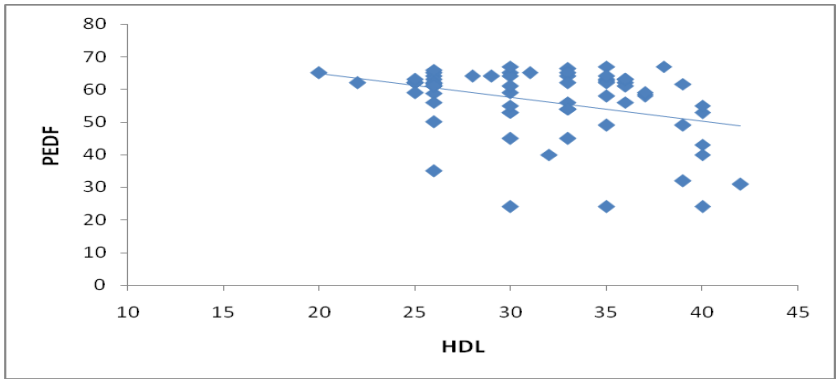

Figure (19): Correlation between PEDF and HDL

- There is a significant positive correlation between PEDF and Triglyceride &T.cholesterol .
- There is a significant negative correlation between PEDF and HDL cholesterol
- There is no correlation between PEDF and LDL cholesterol

Table (12): Correlation between PEDF and fasting blood sugar, uric acid & HS-CRP among the patient group

PEDF / With	r	P
Fasting blood sugar(mg/dl)	0.271	<0.05
Uric acid(mg/dl)	0.225	>0.05(0.06)
HS CRP(mg/L)	0.286	<0.05

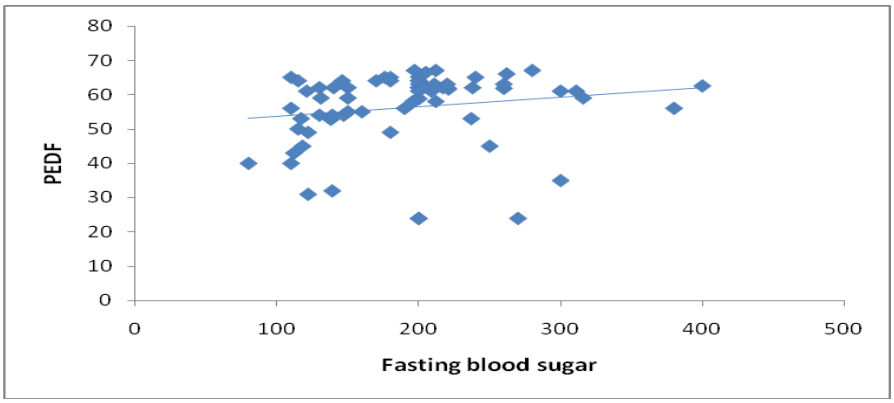

Figure (20): Correlation between PEDF and fasting blood sugar among the patient group

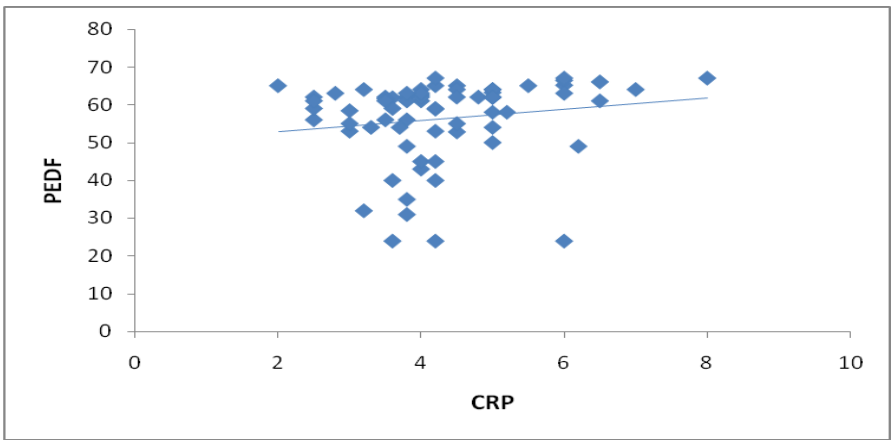

Figure (21): Correlation between PEDF and HS CRP among the patient group

- There is a significant positive correlation between PEDF and both HS CRP and fasting blood sugar
- There is no significant correlation between PEDF and uric acid

- **Table (13):** Correlation between PEDF and number of components of metabolic syndrome

PEDF / No.	r	P
	0.420**	<0.001

** Pearson's correlation (2-tailed)

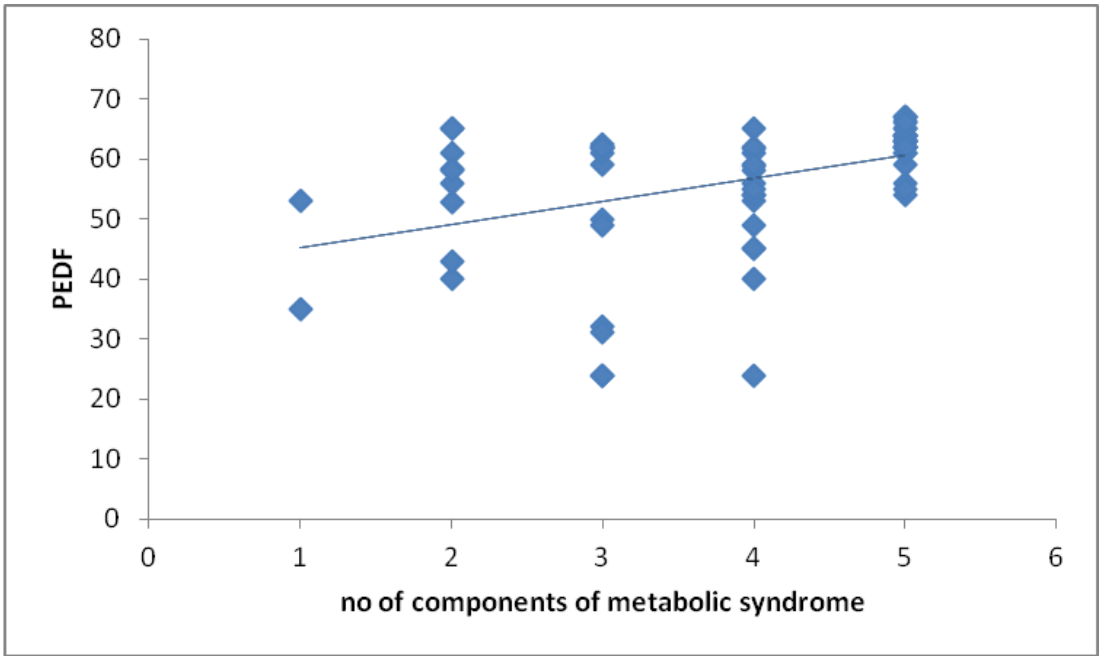

Figure (22): Correlation between PEDF and number of components of metabolic syndrome

- There is a significant positive correlation between PEDF and number of components of metabolic syndrome

Table (14): Stepwise multiple regression analysis of PEDF with the risk factors of the metabolic syndrome

Table (14a)

Variables	R^2	0.204	
	b_0	58.7	
	b	P	95% CI of β
HDL(mg/dl)	-0.62	<0.01	[-1.7 - (-1.6)]
T.Cholesterol (mg/dl)	0.08	<0.05	[0.02 – 0.14]

Table (14b)

Variables	R^2	0.177	
	b_0	1.3	
	b	P	95% CI of β
PEDF	0.046	<0.001	[0.022 – 0.07]

Table (14a) shows that only HDL & cholesterol were significant predictors of PEDF, the remaining factors were not independently related to PEDF.

Values of PEDF can be predicted from the following equation:

$$Y\ (PEDF) = b_o + b_1 \times HDL + b_2 \times cholesterol\ level$$

Table (14b) shows that PEDF is a significant predictor of the no. of components of the metabolic syndrome, no of components can be calculated from the following equation:

$$Y\ (no.\ of\ components) = 1.3 + 0.046 \times PEDF$$

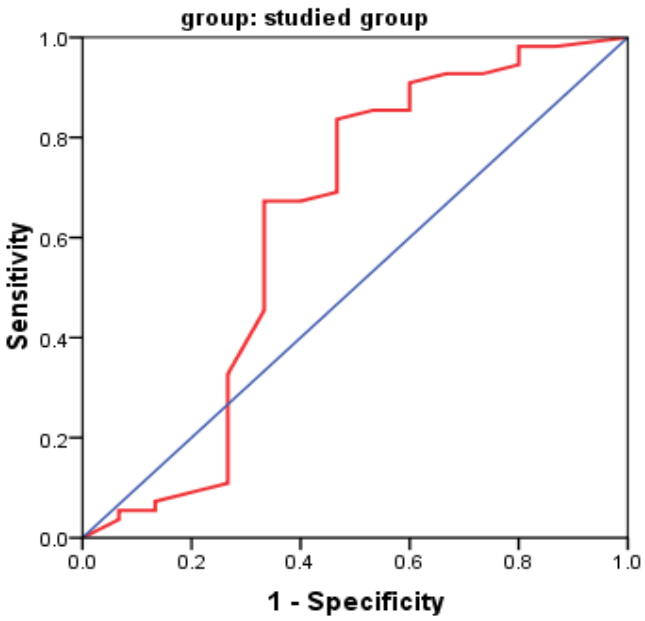

Figure (23): ROC curve analysis of PEDF and metabolic syndrome presence

PEDF sensitivity and specificity for the presence of metabolic syndrome were 83.6 and 53.5 respectively at a cut-off value of 53.5 (AUC 0.683, 95% CI 0.43 -0.83).

Data of patient with metabolic syndrome

	Male♂ or female ♀	age/years	BMI-Kg/m2	WC. cm	blood pressure mm/hg	creatinine mg/dl	lipid profile				uric acid mg/dl	fasting blood sugar/mg/dl	highly sensitive CRPmg/L	PEDF. mg/L
							Cholesterol /mg/dl	TG/mg/dl	HDLmg/dl	LDL mg/dl				
1	♂	50	36	120	130/90	0.8	240	180	30	174	6	200	3.5	65.12
2	♂	47	35	118	135/85	1	250	160	33	185	5.8	205	4	66.4
3	♀	52	29	100	120/90	1.7	162	317	20	78	7	110	4.5	65
4	♀	42	28	95	135/95	1.5	178	155	35	112	7.3	202	3.6	63.2
5	♂	43	28	96	150/105	1	212	160	33	147	5.5	115	5	64
6	♀	42	30	105	170/100	1.2	212	193	25	148	6	238	3.8	62
7	♀	50	27	90	130/95	0.8	211	205	33	137	5.6	380	6	64
8	♀	52	26	105	120/90	0.6	261	210	31	188	6	176	5.5	65
9	♀	44	29	109	160/100	0.9	194	175	26	133	7.5	311	4	61
10	♂	56	32	119	140/90	1.2	189	170	36	119	8	217	3.5	62
11	♂	55	39	130	150/105	1.4	255	198	25	190	7.3	200	2.5	62
12	♀	44	26	95	130/90	0.8	218	100	37	161	5.1	198	3	61.6
13	♀	50	40	130	150/105	0.9	295	112	40	232	6	138	4.5	52.8
14	♀	42	26	90	150/95	0.6	233	189	26	169	6.5	110	8	56
15	♂	55	30	109	160/90	0.8	218	160	40	146	6.3	260	3.6	61.8
16	♀	40	26	103	130/90	0.8	260	170	35	191	5.9	400	4	62.5
17	♀	55	27	100	150/90	0.7	276	175	33	208	6	180	4.2	65
18	♀	56	40	122	150/90	0.6	235	113	35	177	7.5	212	5	58

	Male♂ or female♀	age/years	BMI-Kg/m2	wc. cm	blood pressure mm/hg	creatinine mg/dl	lipid profile				uric acid mg/dl	fasting blood sugar/mg/dl	highly sensitive CRPmg/L	PEDF. mg/L
							Cholesterol /mg/dl	TG/mg/dl	HDLmg/dl	LDL mg/dl				
19	♀	48	25	89	140/90	0.4	231	130	39	166	6.5	221	3.5	58.4
20	♂	55	26	101	120/90	0.8	273	186	30	205	7.1	117	4.2	53
21	♀	50	28	110	160/95	0.8	250	273	26	169	7.5	300	3.8	35
22	♂	52	29	109	140/90	1.7	263	178	30	197	6.6	170	5	64
23	♀	40	26	90	130/95	0.8	205	197	32	133	6	110	6	64
24	♀	45	26	98	120/90	1.2	225	237	30	147	6.2	112	5.2	63
25	♂	56	27	110	135/85	0.9	250	181	26	187	7	200	4.5	64
26	♀	52	29	110	130/95	0.8	280	179	30	214	6.5	131	2.5	59
27	♀	36	29	109	140/95	0.5	273	255	26	196	6.3	300	6.5	61
28	♀	40	28	108	140/95	0.9	212	261	26	134	5.8	200	4.2	58.8
29	♂	50	32	110	150/90	0.9	206	166	37	135	5.6	196	5.2	58
30	♂	42	29	108	140/95	1	247	150	36	181	6	121	3.8	61
31	♂	44	30	112	160/100	0.8	180	127	40	114	7	200	5	62
32	♀	45	27	95	120/90	0.9	179	180	36	107	5.8	270	6	61.9
33	♂	50	29	109	160/100	1.2	220	160	33	155	7	250	4	45
34	♂	46	29	108	150/105	0.8	210	170	36	140	6.8	260	3.3	63
35	♀	40	32	120	140/90	0.9	139	228	38	56	6	280	2.6	67
36	♀	37	33	122	150/90	1.2	205	200	26	139	6.2	240	2	65

37	♂	35	36	124	150/90	1.5	178	170	35	109	5.8	212	4.2	67

	Male♂ or female♀	age/years	BMI-Kg/m2	wc. cm	blood pressure mm/hg	creatinine mg/dl	lipid profile				uric acid mg/dl	fasting blood sugar/mg/dl	highly sensitive CRPmg/L	PEDF. mg/L
							Cholesterol /mg/dl	TG/mg/dl	HDLmg/dl	LDL mg/dl				
38	♂	39	29	108	130/90	0.9	226	175	26	165	6	190	3.8	56
39	♂	40	28	110	140/100	1	230	185	28	165	6.2	180	4	40
40	♀	44	29	108	170/105	0.9	224	180	26	162	6	211	2.8	43
41	♀	43	25	90	150/95	1	170	220	30	96	7	237	3	53
42	♀	37	39	140	120/80	1	202	218	30	128	6.2	197	6	64
43	♂	39	32	119	135/95	2.1	233	263	25	155	5	80	4.2	40
44	♂	50	36	120	140/95	0.8	240	200	29	171	5.8	200	3.2	56
45	♀	40	28	109	140/95	0.9	265	260	26	184	4.2	115	5	50
46	♀	50	29	112	150/100	0.8	323	142	35	259	6.8	150	4.8	62
47	♀	39	28	110	140/90	0.9	250	160	42	176	5.8	220	4	62
48	♂	40	28	108	130/90	0.9	173	168	33	106	5.9	139	6	54
49	♀	55	40	140	160/100	1.2	122	166	39	50	6.2	139	3.2	32
50	♂	52	32	119	150/100	0.9	181	215	33	105	6	147	3.7	54
51	♂	55	29	109	120/90	0.9	250	274	35	160	6.2	146	3.8	67
52	♂	46	28	107	130/90	1.3	140	209	33	165	5.8	130	7	54
53	♂	50	27	103	130/95	1	215	205	26	148	5.6	122	4.2	31
54	♂	52	39	125	160/90	0.9	258	390	30	141	7.6	118	5	59
55	♀	52	30	120	120/80	1	213	199	26	147	5	262	3.8	66
56	♀	37	27	107	130/85	0.8	186	240	25	113	6	316	4.2	45

	Male♂ or female♀	age/years	BMI- Kg/m2	wc. cm	blood pressure mm/hg	creatinine mg/dl	lipid profile				uric acid mg/dl	fasting blood sugar/mg/dl	highly sensitive CRPmg/L	PEDF. mg/L
							cholesterol /mg/dl	TG/mg/dl	HDLmg/dl	LDL mg/dl				
57	♀	40	26	95	130/85	0.9	140	229	22	72	5.8	150	4.5	55
58	♀	45	29	100	135/90	1.3	236	187	30	168	6	209	3.5	61
59	♀	42	29	103	140/100	0.8	200	250	25	125	5.9	200	4	63
60	♀	50	28	110	150/100	1.2	199	250	26	123	6	202	5	24
61	♂	50	29	111	120/90	1.2	240	250	26	164	4.2	122	6.2	49
62	♂	56	26	106	140/100	0.9	240	160	37	171	6	150	3.6	59
63	♂	52	27	109	150/100	0.8	200	100	40	140	7	160	3	55
64	♂	53	27	110	150/95	1.2	250	160	35	183	6	200	2.5	61
65	♂	49	28	112	160/105	0.8	200	170	36	130	6	220	3.8	63
66	♀	42	32	130	130/95	0.6	250	160	35	183	6.5	200	4.2	24
67	♀	43	31	129	140/95	0.7	250	150	39	181	5.6	180	6.5	49
68	♂	50	26	106	120/90	0.8	310	380	30	182	7	200	5	24
69	♂	52	26	104	135/95	0.9	181	212	33	106	5.8	130	4.5	62
70	♂	40	25	102	150/100	1.3	205	160	40	133	5	140	3.6	62

Data of control group

	Male♂ or female♀	age/years	BMI-Kg/m2	wc. cm	blood pressure mm/hg	creatinine mg/dl	lipid profile				uric acid mg/dl	fasting blood sugar/mg/dl	highly sensitive CRPmg/L	PEDF. mg/L
							cholesterol /mg/dl	TG/mg/dl	HDLmg/dl	LDL mg/dl				
1	♂	30	20	70	110/70	0.5	140	70	55	71	4	72	0.6	31.9
2	♀	30	21	75	120/80	0.8	145	88	45	82	4.4	88	1.2	32
3	♂	32	20	80	125/80	0.7	160	90	46	96	5	76	0.8	34
4	♀	44	22	85	120/90	0.6	130	100	56	54	3.5	100	1	33
5	♂	36	20	72	100/90	0.7	145	102	60	64	5	77	0.6	16
6	♀	32	19	70	120/70	0.8	140	62	63	63	3.2	80	0.4	30
7	♂	40	20	75	110/70	0.8	150	56	77	77	4	76	1.2	35
8	♀	45	21	76	90/60	0.9	144	50	78	78	3.5	104	0.8	30
9	♂	31	20	73	120/90	0.5	135	52	67	67	5	86	1.3	38
10	♀	30	22	80	122/90	1	200	55	127	127	4.5	72	0.08	30
11	♂	33	23	90	110/70	1.2	140	49	70	70	4.6	80	0.6	20
12	♀	53	21	77	120/90	0.8	155	56	80	80	3.5	90	0.2	18
13	♂	42	20	73	110/70	0.7	109	49	45	45	2.5	75	1	15
14	♀	36	22	80	110/70	0.6	110	60	30	30	2.6	76	0.6	23
15	♂	37	23	88	120/90	0.7	160	55	81	81	4	95	0.3	21
16	♀	39	19	70	125/90	0.8	170	48	102	102	4.5	88	0.1	30
17	♂	33	20	72	130/90	0.8	144	45	81	81	5	100	0.5	35
18	♀	35	24	88	120/80	0.6	150	46	89	89	3.5	102	1	33
19	♂	26	23	84	110/70	0.7	165	52	97	97	5	104	1.2	30
20	♂	28	22	80	110/90	1	190	60	114	114	4	75	0.6	25