Results

The study included 30 infertile females with PCOS, who were divided into two groups according to BMI:

Obese group: 18 women of obese PCOS infertility female with BMI>30KG/m2.

Non obese group: 12 women of non obese PCOS infertile females with BMI<30kg/m2.

And 20 women were included in the final analysis as control.

Table (8): Age distribution among obese, non obese and control women.

	Age (years)			
	Range	Mean ± SD	F-test	
			F	P-value
Obese	1800-37.00	27.889 ± 4.846	**1.761**	**0.454**
Non obese	16.00-35.00	25.609 ± 5.306		
Control	16.00-32.00	24.20 ± 4.92		

Table (8): Age distribution among obese, non obese women and controls group. The mean ± for obese women was 27.889 ± 4.846 years, in non obese women, it was 25.609 ± 5.306 years and in controls, it was 24.20±4.92 years and this showed statistically non significant difference.

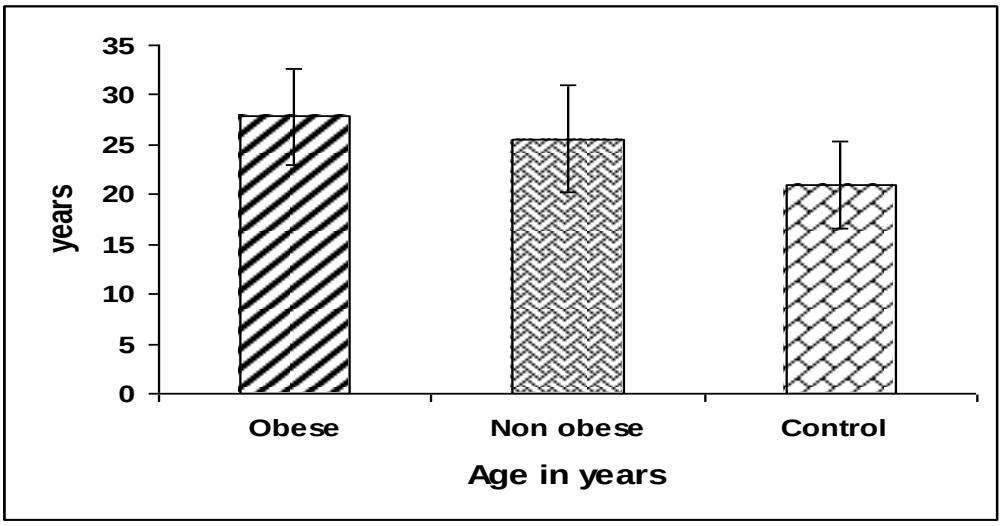

Fig (3): Age distribution among obese, non obese women and controls group.

Table (9): The severity of hirsuitism among obese and non obese woman.

			Groups		
			Obese	Non obese	Total
Hirsuitism	Mild	N	10	4	4
		%	55.56	33.3	42.85
	Moderate	N	5	5	10
		%	27.78	41.7	35.71
	Severe	N	3	3	6
		%	16.67	25	21.43
	Total	N	18	12	30
		%	100.00	100.00	100.00
Chi-square	X^2	3.32			
	P-value	0.190			

Table (9): Mild hirsuitism was present in 55.56% in obese women, while represented 33.3% in non obese women. Moderate hirsuitism was present in 27.78% in obese women, while represented 41.7% in non obese women and this showed statistically non significant difference.

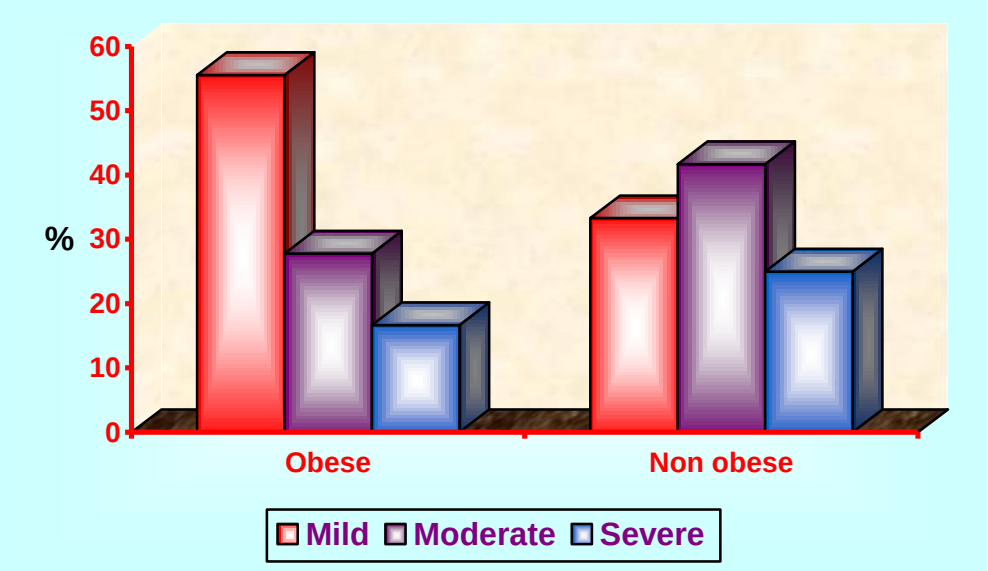

Fig. (4): The severity of hirsutism among obese and non obese women.

Table (10): Comparison of androgenic manifestations between cases with PCO and control woman.

	PCO	Control
No. of cases	30	20
No. of cases with + ve androgenic manifestation	28	0
Percent of cases with + ve androgenic manifestations	51.43%	0.00%
No. of cases with – ve androgenic manifestations	2	20
Percent of cases with –ve androgenic manifestations	48.57%	100.00%
P	**0.0002**	

Table (10): This table showed that the androgenic manifestations are present only in the PCO group (51.43%) and not in the control group so there is statistically highly significant difference between both groups. **" P= 0.0002".**

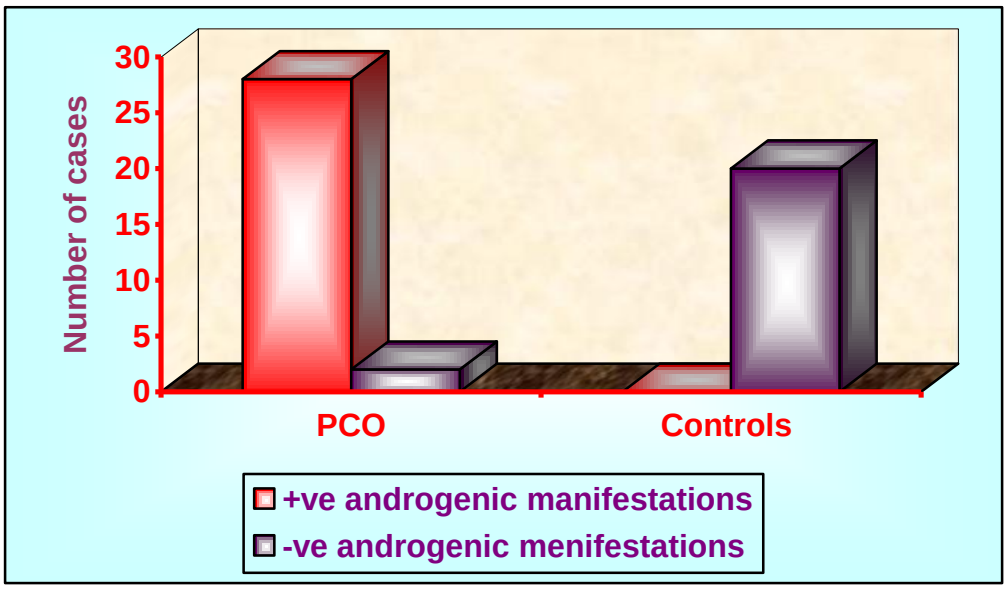

Fig. (5): Distribution of androgenic manifestations between cases with PCO and controls.

Table (11): Fasting blood glucose levels among obese, non obese and control women.

	FBS (mg/dl)			
	Range	Mean ± SD	F-Test	
			F	P-value
Obese	68.00-113.00	85.333±10.392	**1.041**	**0.045**
Non obese	65.00-95.00	79.348±8.381		
Control	70.00-90.00	74.20 ± 5.36		

Table (11): Mean ± SD of fasting blood glucose levels were 85.333±10.392 mg/dl and 79.348±8.381 mg/dl in obese and non obese groups respectively and it was 74.20±5.36 mg/dl in controls. This showed statistically significant difference.

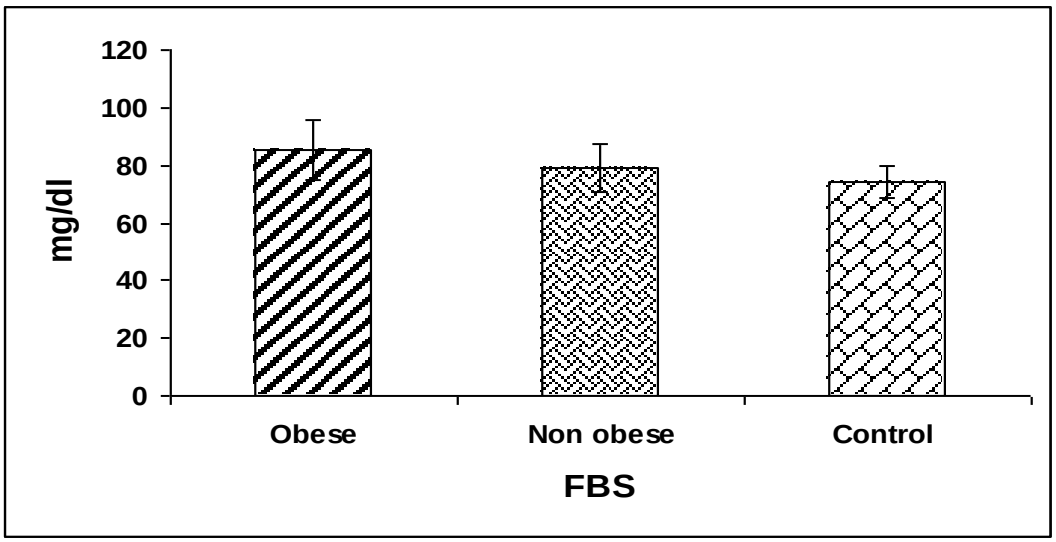

Fig. (6): Fasting blood glucose levels among obese, non obese women and controls groups.

Table (12): 2 hours P.P blood glucose levels among obese, non obese and control women:

	2 hours p.p blood glucose levels (mg/dl)			
	Range	Mean ± SD	F- test	
			F	P-value
Obese	92.00-175.00	127.370±21.642	**1.89**	**0.066**
Non obese	79.00-173.00	114.826±23.600		
Control	45.00-120.00	100.40 ± 23.62		

Table (12): Mean + SD of 2 hours P.P blood glucose levels were 127.370 ± 21.642 mg/dl and 114.826±23.600 mg/dl obese and nonobese groups respectively and it was 100.40± 23.62 mg/dL in controls. This showed statistically non significant difference.

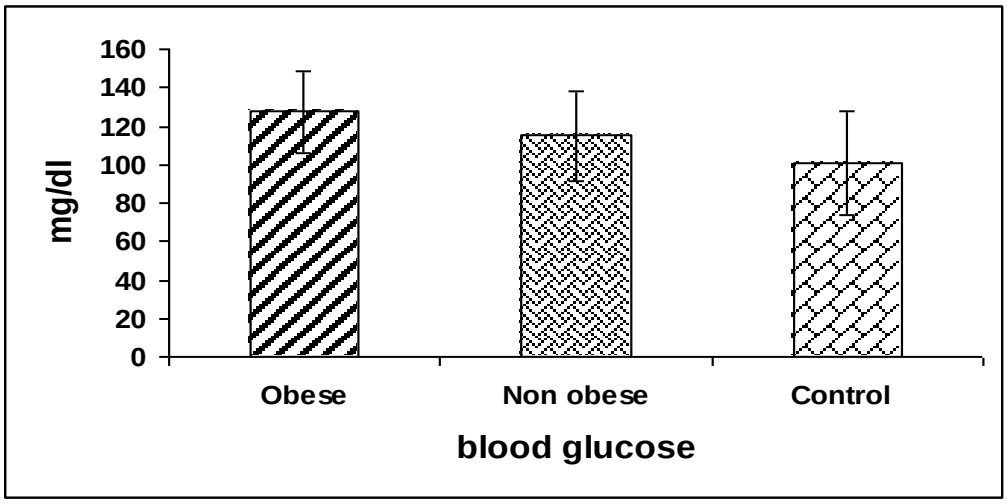

Fig. (7): 2 hours P.P blood glucose levels among obese, non obese women and controls groups.

Table (13): Impaired fasting glucose (IFG) among obese and non obese and control women:

		Obese		Non obese		Control	
		N	%	N	%	N	%
IFG		2	11.1	0	0	0	0
Normal		16	88.9	12	100	20	100
Total		**18**	**100**	**12**	**100**	**20**	**100**
Chi-square	X^2	**3.70**					
	P-value	**0.045**					

Table (13): IFG was 11.1% in obese women, while represented zero in non obese women and controls. This showed statistically significant difference.

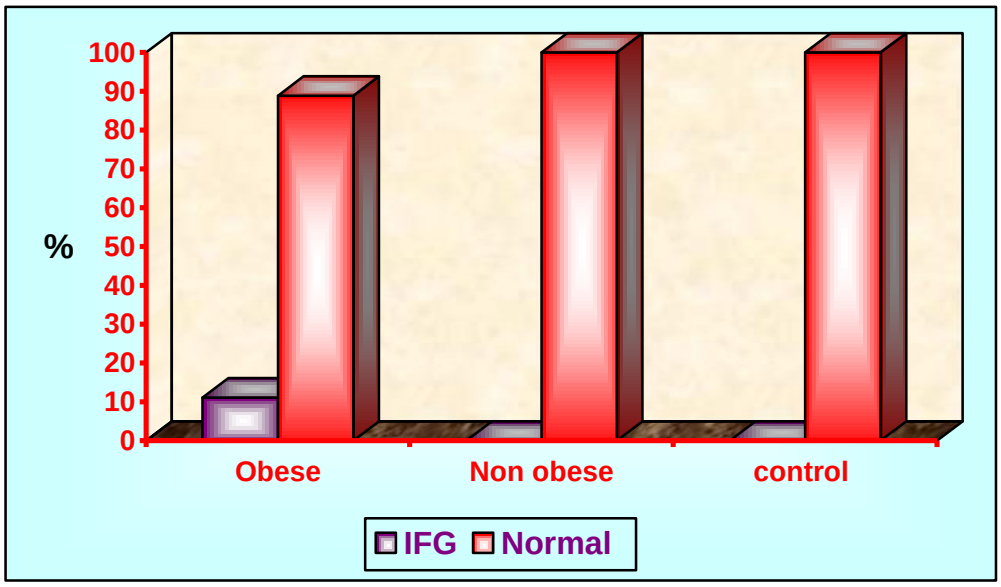

Fig. (8): Impaired fasting glucose among obese, non obese women and controls groups.

Table (14): Impaired glucose tolerance (IGT) among obese, non obese and control women:

		Obese		Non obese		Control	
		N	%	N	%	N	%
IGT		7	38.9	3	25	0	0
Normal		11	61.11	9	75	20	100
Total		**18**	**100**	**12**	**100**	**20**	**100**
Chi-square	X^2	**9.20**					
	P-value	**0.010**					

Table (14): Women having IGT were 38.9% in obese women, while represented 25% in non obese women and represented zero in controls. This showed statistically significant difference.

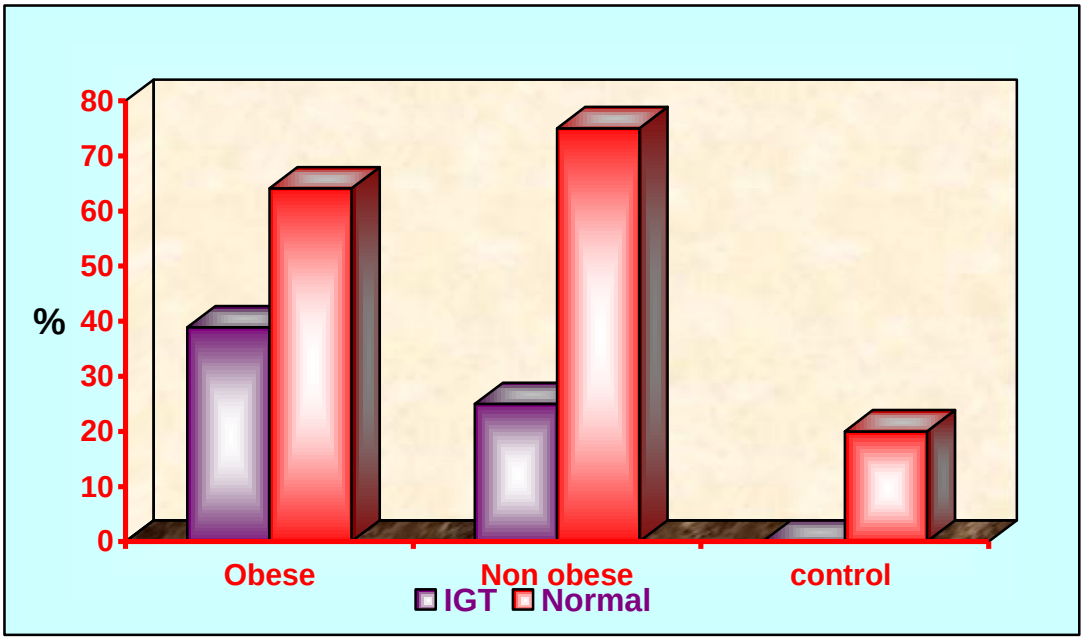

Fig. (9): Impaired glucose tolerance among obese, non obese women and controls groups.

Table (15): Fasting plasma insulin among obese, non obese and control women:

	Fasting plasma (mU/ml)			
	Range	Mean + SD	F-test	
			F	p-value
Obese	4.10 – 52.70	18.000 ± 14.388	4.03	0.050
Non obese	2.80 – 37.80	11.248 ± 8.219		
Control	6.00-35.00	25.550±8.029		
Total	2.80 – 52.70	17.57 ± 11.8		

Table (15): Mean + of fasting plasma insulin levels were 18.000 + 14.388 mU/ml and 11.248+ 8.219 mU/ml in obese and non obese groups respectively and it was 25.550+ 8.029 mU/ ml in controls. This showed statistically significant difference.

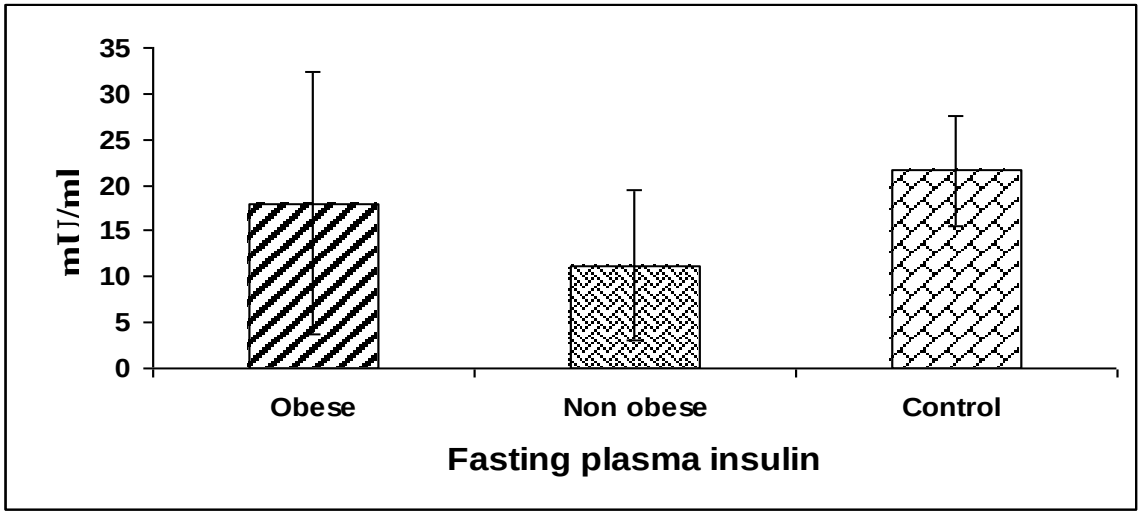

Fig (10): Fating plasma insulin levels among obese, non obese women and controls group.

Table (16): Hyperinsulinemia among obese, non obese and control women:

		Obese		Non obese		Control	
		N	**%**	**N**	**%**	**N**	**%**
Hyperinsulinemia		10	55.56	5	41.7	0	0
Normal		8	44.4	7	58.3	20	100
Total		**18**	**100.00**	**12**	**100.00**	**20**	**100.00**
Chi-square	X^2	**14.95**					
	P-value	**<0.001**					

Table (16): The presentage of patients having hyperinsulinemia was 55.56% in obese women, while represented 41.7% in non obese women and represented zero in controls. This showed statistically highly significant difference.

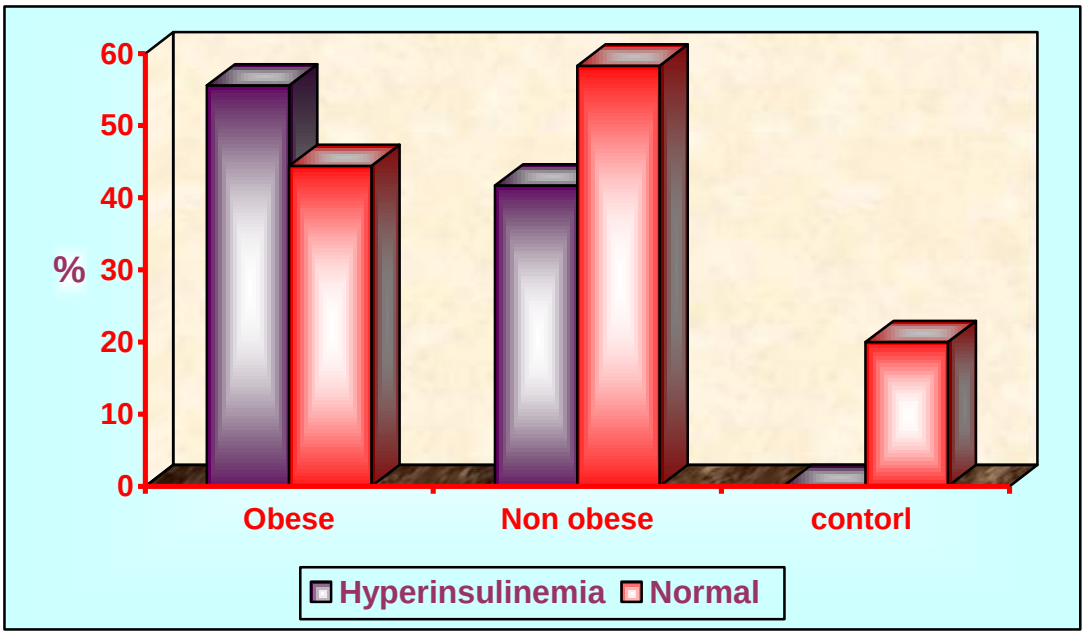

Fig. (11): Hyperinsulinemia among obese, non obese women and controls group.