



# THE INFLUENCE OF THE BODY FAT DISTRIBUTION ON THE SELECTED BIOCHEMICAL PARAMETERS IN A GROUP OF WOMEN WITH POLYCYSTIC OVARY SYNDROME – PRELIMINARY REPORT

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## INTRODUCTION:

Polycystic Ovary Syndrome is usually accompanied by metabolic changes such as carbohydrate and lipid metabolism disorders and obesity.

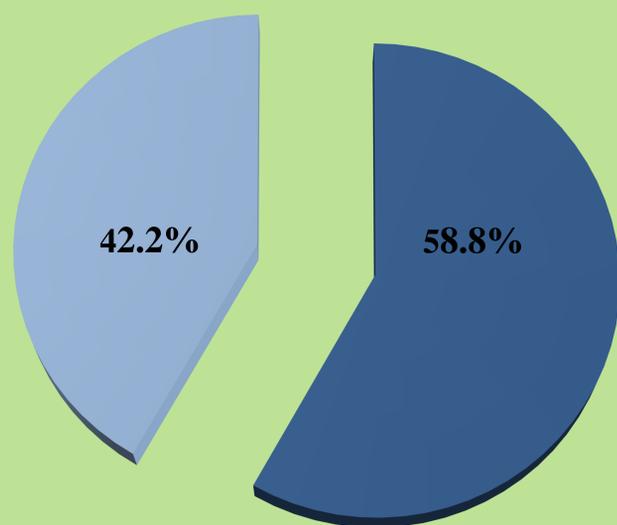
## AIM:

The aim of the study is to determine the impact of the deployment of body fat on selected biochemical parameters in women with Polycystic Ovarian Syndrome.

## MATERIALS AND METHODS:

The study included a group of 45 women with diagnosed Polycystic Ovarian Syndrome based on the 2003 Rotterdam criteria. In order to evaluate the distribution of body fat, the WHR (Waist-Hip Ratio) index was used. For the diagnosis of abdominal obesity we adopted the values  $\geq 0.85$  and  $< 0.85$  for gluteal-femoral obesity.

## RESULTS:



- Women with gluteal-femoral obesity
- Women with abdominal obesity

WHR	Women with gluteal-femoral obesity	Women with abdominal obesity	P-value
HDL cholesterol (mg/dl)	71.08±14.84	48.95±8.48	<0.0001
TG (mg/dl)	81.80±34.65	125.58±63.23	0.0054
HOMA index	1.97±1.64	3.07±1.18	0.0186
SHGB (nmol/l)	25.69±31.53	32.44±19.01	0.0008
Free testosterone (pg/ml)	5.74±4.19	11.81±6.37	0.0004
FAI index	4.02±3.31	8.16±4.00	0.0017

The group of women aged 18-40 years (16.4±5.6) entered the study. Significant differences were found between the group of women with gluteal-femoral obesity and the group of women with abdominal obesity in terms of average values of: HDL cholesterol (mg/dl) (71.08±14.84 vs. 48.95±8.48;  $p<0.0001$ ), TG (mg/dl) (81.80±34.65 vs. 125.58±63.23;  $p=0.0054$ ), HOMA index (1.97±1.64 vs. 3.07±1.18;  $p=0.0186$ ), SHGB (nmol/l) (25.69±31.53 vs. 32.44±19.01;  $p=0.0008$ ), free testosterone (pg/ml) (5.74±4.19 vs. 11.81±6.37;  $p=0.0004$ ), and FAI index (4.02±3.31 vs. 8.16±4.00;  $p=0.0017$ ).

## CONCLUSION

Evaluation of body fat distribution seems to be useful in determining the risk of carbohydrate metabolism and lipid metabolism disorders as well as hyperandrogenemia in with Polycystic Ovarian Syndrome patients.