

CORRELATION OF ANTHROPOMETRIC PARAMETERS WITH BODY FAT DISTRIBUTION IN INFERTILE WOMEN WITH POLYCYSTIC OVARY SYNDROME

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Polycystic ovary syndrome (PCOS) is a common endocrine disorder and a major cause of female infertility. Adiposity and its regional distribution are implicated in the metabolic and reproductive disturbances associated with PCOS. This study aimed to evaluate a correlation between simple anthropometric indices and body fat compartments measured by bioelectrical impedance among infertile PCOS women.

We conducted a descriptive analytical study of 50 infertile women with PCOS who attended a tertiary fertility clinic between November 2024 and October 2025. Sociodemographic information was collected using a structured questionnaire. Anthropometric measurements included weight, height, waist circumference (WC) and waist-to-hip ratio (WHR), recorded with standard instruments. Blood pressure was measured. Body composition – visceral fat (VF), subcutaneous fat (SF) and total body fat (TBF) – was estimated with a Dr. Trust Legend 526 smart body-fat scale (bioelectrical impedance). Data are presented as frequencies (%) or means (\pm SD)/medians as appropriate. Spearman's rank correlation coefficients (r_s) were used to evaluate relationships between anthropometric measures and fat compartments. Statistical analyses were performed in IBM SPSS v31.

Participants had a mean age of 28.9 years (SD 4.35) and a median BMI of 25.25 kg/m². WHR showed very weak, positive correlations with VF ($r_s = 0.066$), SF ($r_s = 0.045$) and TBF ($r_s = 0.145$). In contrast, BMI exhibited a strong and highly significant positive correlations with VF ($r_s = 0.915$), SF ($r_s = 0.914$) and TBF. Similarly, WC was strongly and significantly correlated with VF ($r_s = 0.713$), SF ($r_s = 0.704$) and TBF ($r_s = 0.797$). Statistical significance was considered at $p < 0.05$.

These findings indicate that BMI and WC are reliable predictors of both visceral and subcutaneous fat accumulation in women which also possess a risk for infertility with PCOS.