

Anthropometric indices effect on diabetes & pre-diabetes of polycystic ovarian syndrome women treated at Teaching Hospital Jaffna

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Polycystic Ovarian Syndrome (PCOS) is a metabolic disorder caused by hormonal imbalance. Investigating the prevalence of diabetes and the effects of anthropometric indices on the development of diabetes is vital for the effective management, of women affected with PCOS. Descriptive cross-sectional study with convenient sampling method was used to recruit 125 women who were diagnosed with PCOS based on the Rotterdam criteria when they visited Obstetrics and Gynaecology Clinic for the first time. Data for fasting plasma glucose (FPG) level were gathered; weight, height, waist, and hip circumference were measured based on the World Health Organization (WHO) STEPS protocol 52. Ethical approval was obtained from the Ethical Review Committee, Faculty of Medicine, University of Jaffna. Descriptive analysis and chi square test were performed to with SPSS version 25 to analyze the data. The mean FPG of the women was 5.01 (± 1.26) mmol/l. Prevalence of diabetes and prediabetes were 3.2% and 19.2%, respectively. The mean BMI and waist-hip ratio (WHR) of PCOS women were 27.8 (± 5.7) kg/m² and 0.9 (± 0.1). Among the prediabetics, 8.0% were obese (≥ 27.5 kg/m²), and 4.8% were overweight (23.0–27.5 kg/m²) and among the diabetics, 2.4% were obese and none were overweight. The mean BMI of diabetics and prediabetics were 29.5 (± 4.7) and 26.2 (± 6.0) kg/m². The mean WHR of diabetics and pre-diabetics were 0.9 (± 0.6) and 0.9 (± 0.1) respectively. Elevated WHR were observed in 2.4% and 9.6% of diabetics and pre-diabetics respectively. No significant relationships were observed between FPG and BMI, WHR. Even though there has been no significant relationship between the anthropometric indices and FPG of PCOS, the higher anthropometric measures of diabetes / prediabetes, suggested increased risk of women suffering from PCOS becoming diabetic / prediabetic. Furthermore, significant prevalence of prediabetes among women with PCOS, emphasized the importance of targeted prevention of developing diabetes.

Keywords: Anthropometric indices, Diabetes, Polycystic ovarian syndrome, Prediabetes

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