

## ABSTRACT

The risk of cardiovascular disease (CVD) in post-menopausal women rises sharply after middle age. Loss of ovarian function and endogenous estrogen secretion, with consequent adverse effects on circulating lipids along with changes in, body composition and fat distribution thought as a major determinants of increased risk. The present study was conducted to compare the adiposity, body composition, and blood pressure and total cholesterol (TC) between post-menopausal and pre-menopausal women. Thirty-six pre-menopausal aged between 25-45y and thirty-one post-menopausal women aged between 45-60y, participated in the study. Anthropometric measurements (weight, height, waist circumference (WC), hip circumference (HC) and skin-fold measurements (SFM)) were taken and fasting TC was assessed. Bioelectrical impedance analysis (BIA) was used along with SFMs to assess body composition. Correlations between two groups were compared using 't' test and variables were determined. Post-menopausal women had significantly higher waist-to-hip ratio (WHR) and waist-to-height ratio (WHTR) ( $P < 0.03$ ) than pre-menopausal women, although their body mass index (BMI) was similar. Incase of body composition post-menopausal women had significantly higher percentage body fat, fat mass and significantly lower lean body mass compared with pre-menopausal women, when assessed both from SFM and BIA ( $P < 0.03$ ). Also, post-menopausal women had higher TC and systolic blood pressure (SBP) and very significantly higher diastolic blood pressure (DBP) ( $P < 0.001$ ). The results of the present study proved that post menopausal women had higher WHR and WHTR, which signify the abdominal adiposity that had the positive relationship with TC (WHR Vs TC:  $r = 0.97$  and WHTR Vs TC:  $r = 0.97$ ,  $P < 0.001$ ). It can be suggested that increased WHR and/or WHTR leads to adverse metabolic effects on women's health in relation CVD. Therefore women, especially post-menopausal women should maintain an appropriate amount of body fat and fat distribution to protect against CVD.