

## Central Obesity in Relation with Blood-free Fatty Acid and Malondialdehyde Levels in Myanmar People

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### CENTRAL OBESITY IN RELATION WITH BLOOD FREE FATTY ACID AND MALONDIALDEHYDE LEVELS IN MYANMAR PEOPLE

#### Abstract

**Background and Objectives:** Obesity is a complex, multi-factorial, chronic disease involving genetic, metabolic and psychological components. Many researchers explored the linkage among obesity, free fatty acid and oxidative stress. Nowadays, central obesity becomes more important than general obesity on consideration of health issues. The study was to find out whether central obesity is associated with free fatty acid level and oxidative stress or not.

**Materials and Methods:** It was cross sectional comparative study of age between 35 to 45 years (n=80), involving both sexes. They were categorized into two groups; 40 centrally obese and control group according to asian's cut off point of waist hip ratio. The serum FFA and plasma MDA levels were determined by colorimetry methods.

**Results:** The mean serum FFA level of centrally obese adults was  $16.07 \pm 2.33$  mg/dl which was significantly higher than those of the control group of  $11.12 \pm 1.47$  mg/dl ( $p < 0.001$ ). The mean plasma MDA level of centrally obese adults was  $1.80 \pm 0.19$   $\mu$ mol/L which was significantly higher than those of control of  $1.24 \pm 0.18$   $\mu$ mol/L ( $p < 0.001$ ). There was positive correlation between serum FFA and plasma MDA in centrally obese group ( $r = 0.716$ ) ( $p < 0.001$ ) as well as control group ( $r = 0.435$ ) ( $p < 0.05$ ). But, there was a stronger positive correlation in centrally obese adults.

**Conclusion:** It can be concluded that adipose tissue lipolysis and plasma lipid peroxidation was more evident and also related to the levels of central adiposity.

**Keywords:** waist-hip ratio, free fatty acid, malondialdehyde