

# The Correlation between Body Mass Index (BMI) and Serum Uric Acid of 20- 25 Aged Healthy Individuals

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Uric acid is the end product of purine degradation. It is a good indicator for risk of renal and cardiovascular diseases, gout, hypertension and type 1 diabetes mellitus. Hyperuricemia mostly prevails as an asymptomatic condition where it has the probability to end up with symptomatic hyperuricemia. If there is a correlation between serum uric acid level and Body Mass Index (BMI), it can be used for screening people for hyperuricemia. Hence, the objective of this study was to investigate the correlation between serum uric acid level and BMI. This is a descriptive cross-sectional study. Each BMI category included 30 subjects of Sinhala, Buddhist healthy males and females within 20- 25 years of age. Patients suffering from joint pains, renal failure, cardiac diseases, type 2 diabetes, hypertension and individuals with high meat consumption were excluded from the study. BMI was calculated following the standard protocol. Serum uric acid concentration was measured with Uricase method using the KONE 20XT automated analyzer. Statistical analysis showed that there is a significant moderate positive linear relationship between BMI and uric acid concentration ( $r = 0.516$ ,  $p < 0.001$ ). The minimum mean value of serum uric acid concentration ( $199.7 \mu\text{mol/L}$ ) was reported from the underweight group while the maximum mean value ( $319.4 \mu\text{mol/L}$ ) from the obese group. The normal and overweight groups had the serum uric acid mean values of  $275.4 \mu\text{mol/L}$  and  $256.6 \mu\text{mol}$  respectively. Males showed a higher serum uric acid concentration compared to females. Especially, with regard to underweight and obese categories, BMI can be used to screening people for hyperuricemia.

**Keywords:** Serum uric acid, Body mass index, Underweight, Obesity