

Prevalence of Caffeinated Beverage Intake and Its Association with Serum Uric Acid, Body Mass Index and Gastritis among Undergraduates of University of Sri Jayewardenepura

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Background: Consumption of caffeine is known to exert many health effects and is associated with Serum Uric Acid (SUA), Body Mass Index (BMI) and gastritis.

Objective: To determine the prevalence of caffeinated beverage intake and its association with SUA, BMI and gastritis prevalence among undergraduates aged 20-26 years.

Methods: A cross-sectional study was conducted using 100 undergraduates aged 20-26 years, from the Faculty of Allied Health Sciences of University of Sri Jayewardenepura, using random number table. Information on caffeine consumption (assuming that caffeine content in each cup is equal) and gastritis incidence was assessed using a validated self-administered questionnaire. Three milliliters of whole blood were collected and SUA levels were measured using the Erba XL 100 biochemistry analyzer. Weight and height were measured for BMI calculation. Data analysis were done using SPSS version 25. Results were considered statistically significant at $p < 0.05$.

Results: Prevalence of black tea, brewed coffee and instant coffee consumption were 96%, 83% and 61% respectively. Out of 100 participants, 71% ($n = 71$) were routine users (≥ 7 cups/week) while 29% ($n = 29$) were non-routine users (< 7 cups/week or never consumers). Females (89.20%) showed a significantly high prevalence of caffeinated beverages consumption than males (19.20%, $p = 0.000$). The mean SUA level was significantly low among routine consumers (3.81 mg/dL) than non-routine consumers (5.21 mg/dL, $p = 0.000$). Prevalence of gastritis was significantly high among routine caffeine consumers (62.0%, $n = 44$) when compared with non-routine consumers (34.5%, $n = 29$, $p = 0.012$). No significant association was found between total caffeine intake and BMI ($p = 0.605$).

Conclusions: This study reveals that, tea is the most commonly used caffeinated beverage and consumption was higher in female students. There was a significant negative association between total caffeine consumption and SUA levels. A positive association between caffeine intake and gastritis incidence was seen. This study did not show any association between caffeine consumption and BMI.

Keywords: Caffeine, Coffee, Gastritis, Serum uric acid, Tea