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**Abstract
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Exposure and risk assessments to caffeine in young university students from Leicester, England

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BACKGROUND AND AIM: To assess intake of coffee, tea, energy (ED) and related drinks in a young population of students at De Montfort University (DMU, UK), to determine exposure and risk assessments to caffeine.

METHOD: Comprehensive nutrient intake was collected from 111 (20.45±1.16 yrs-old; 78 female) DMU students between 2015-16 from three major ethnic backgrounds (41 Asia, 41 Africa, 27 Europe), using a validated variant of the Nutrition Norfolk Food Frequency Questionnaire. Questionnaires were processed with Nutritics dietary software.

RESULTS: The dietary intake of caffeine was higher in female participants (90.483 vs. 75.579 mg/day), which could be attributed to the higher intake of coffee (104.69 vs. 65.68 g/day) and tea (161.29 vs. 106.97 g/day) in female students. In contrast, the intake of energy (88.14 vs. 63.14 g/day) and sports drinks (232.14 vs. 178.57 g/day) were higher in male participants. Although none of them showed statistical significance maybe due to the differences in the number of participants according to sex, our results agree with recent studies that have reported a considerable increase in the intake of EDs in young male adults. The intake of caffeine, tea and coffee did not show statistical differences according to ethnic background. The recorded body weights with Tanita(R) were used to report the intake of caffeine in milligrams per kilogram of body weight per day (1.408 vs. 1.057 mg/kg/day, respectively), which were lower than the reported intake in 18-24 years-old US population (1.7 mg/kg/day).

CONCLUSIONS: Although the total intake of caffeine in DMU students would be lower than the amount established by the FDA as safe (400 mg/day), the intake of caffeine in some participants (0.0170-5.8528 and 0.0209-6.6699 mg/kg/day, female and male, respectively) exceed the established reference range intake that can cause adverse effects (>3 mg/kg/day; cardiovascular/haematological, neurological and psycho-behavioural effects). The intake of caffeinated beverages should be reduced in university students.

Keywords: Caffeine intake, university students, Leicester.