D-P4 SADRŽAJ KOFEINA U NAPICIMA PRIPREMLJENIM OD RAZLIČITIH PROIZVODA OD KAFE DOSTUPNIH NA TRŽIŠTU SRBIJE

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Kafa je jedan od najpopularnijih napitaka koji privlači značajnu istraživačku pažnju zbog svog hemijskog sastava i povezanih zdravstvenih efekata. Dok umereno konzumiranje kafe (do 400 mg kofeina dnevno) može imati povoljne zdravstvene efekte, prekomeran unos može dovesti do nervoze, nesanice, kardiovaskularnih i drugih neželjenih efekata. Sadržaj kofeina u napicima od kafe zavisi od vrste zrna kafe, stepena prženja, načina pripreme, kao i veličine porcije. Cilj ovog istraživanja bio je određivanje sadržaja kofeina u napicima od mlevene (7 uzoraka), instant (7 uzoraka) i filter kafe (7 uzoraka) dostupnoj na tržištu Srbije. Sadržaj kofeina u pripremljenim napicima određen je primenom tečne hromatografije visoke efikasnosti sa detektorom sa nizom fotodioda (HPLC-DAD), u skladu sa propisom Ph.Eur. za određivanje kofeina u biljnim drogama. Za preračun sadržaja kofeina po porciji, za sve vrste napitaka korišćena je porcija zapremine 100 mL. Napici od mlevene kafe sadržali su veće koncentracije kofeina (0,70–1,52 mg/mL) u poređenju sa instant (0,51–0,77 mg/mL) i filter kafom (0,70–1,21 mg/mL). Prosečan sadržaj kofeina po porciji iznosio je 118,72±39,46 mg za mlevenu kafu, 63,09±9,43 mg za instant kafu i 98,42±13,87 mg za filter kafu. Dobijeni rezultati ukazuju da preporučeni bezbedni dnevni unos kofeina za odrasle (400 mg/dan) može biti prekoračen konzumiranjem tri porcije mlevene kafe, šest porcija instant kafe ili četiri porcije filter kafe. Dalja istraživanja hemijskog sastava napitaka od kafe i procena njihovog unosa su neophodni u cilju procene koristi i rizika povezanih sa konzumiranjem kafe.

Zahvalnica
Istraživanje je finansirano od strane Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije kroz Ugovor sa Univerzitetom u Beogradu – Farmaceutskim fakultetom broj: 451-03-33/2026-03/200161 i 451-03-34/2026-03/200161.

D-P4 CAFFEINE CONTENT IN BEVERAGES PREPARED FROM DIFFERENT COFFEE PRODUCTS AVAILABLE ON THE SERBIAN MARKET

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As one of the most popular beverages, coffee has attracted considerable research interest regarding its chemical composition and associated health effects. While moderate coffee consumption (up to 400 mg of caffeine per day) may provide health benefits, excessive intake can lead to nervousness, insomnia, cardiovascular, and other adverse effects. The caffeine content in coffee beverages depends on the type of coffee bean, roast level, brewing method, and serving size. This study aimed to determine the caffeine content in ground (7 samples), instant (7 samples), and filter coffee (7 samples) available on the Serbian market. The caffeine content in prepared coffee beverages was determined by high-performance liquid chromatography with a photodiode array detector (HPLC-DAD) in accordance with Ph.Eur. procedure for determining caffeine in herbal drugs. For calculating caffeine content, a serving size of 100 mL was used for all coffee beverages. Ground coffee beverages contained higher caffeine levels (0.70–1.52 mg/mL) compared to instant (0.51–0.77 mg/mL) and filter coffee (0.70–1.21 mg/mL). The average caffeine content per serving was 118.72±39.46 mg for ground coffee, 63.09±9.43 mg for instant coffee, and 98.42±13.87 mg for filter coffee beverages. These results suggest that the recommended safe daily intake of caffeine for adults (400 mg/day) could be exceeded with three servings of ground coffee, six servings of instant coffee, or four servings of filter coffee. Further studies on the chemical composition of coffee beverages and assessments of their consumption are needed to clarify ongoing controversies regarding the benefits and risks of coffee intake.

Acknowledgement
This research was funded by the Ministry of Science, Technological Development and Innovation, Republic of Serbia through two Grant Agreements with University of Belgrade - Faculty of Pharmacy No 451-03-33/2026-03/200161 and No 451-03-34/2026-03/200161.