



Nutrition Society Congress 2024, 2–5 July 2024

From bean to bottle - A snapshot review of the caffeine-containing food supplements notified to the Food Safety Authority of Ireland between January 2023 and December 2023

S. Nic Sheoin^{1,2}, M.G. Hogan^{1,3}, N. Clarke¹, L. Farrell¹, S. Walsh¹, C. Grimes¹ and C.B. O'Donovan¹

¹The Food Safety Authority of Ireland, Dublin 1, Ireland

²School of Biological Health & Sports Sciences, Technological University Dublin, Dublin 7, Ireland

³School of Agriculture and Food Science, University College Dublin, Dublin 14, Ireland

This abstract was awarded the prize for best oral presentation.

Caffeine, a natural stimulant, is found in foods, beverages, and food supplements (FS). Excessive caffeine consumption has been associated with cardiovascular impairments, anxiousness and sleep disruptions¹. The European Food Safety Authority (EFSA) estimated safe intake levels of caffeine: a single dose of up to 200mg and a daily intake of up to 400mg, are considered safe for the general population². Regulation (EU)1169/2011 requires products containing caffeine to include additional labelling warnings, 'Contains caffeine' or 'High caffeine content'³. In Ireland, all FS placed on the market must be notified to the Food Safety Authority of Ireland (FSAI) via the Food Notifications System (FNS)⁴.

The aims of this study were to: (1) Identify caffeine-containing FS notified to the FSAI from January 1st to December 31st 2023, (2) Investigate whether these FS comply with relevant labelling requirements, (3) Assess the safety of these products in line with the EFSA safe intake levels.

Data on caffeine-containing FS notified to the FSAI in 2023 was extracted from the FSAI FNS. Information extracted included product name, contains caffeine/high caffeine content statements, amount of caffeine, ingredients list and directions for use. Analysis was conducted using IBM SPSS (version 29.0.01).

There were 325 caffeine-containing FS notified to the FSAI in 2023. This study identified 8 categories of caffeine-containing FS, based on their function: pre-workout (*n*163), botanicals (*n*14), vitamin and minerals (*n*12), gaming (*n*7), before and/or during exercise (*n*45), fat burners (*n*57), general stimulants (*n*23) and energy drinks (*n*4).

Over 80% of these FS (*n*276) used "contains caffeine" and 9% (*n*30) used "high caffeine content" statements on their label. The remaining 5% (*n*19) used neither statement. Less than a fifth (14%) (*n*45) of notified FS did not comply with legislative labelling warnings (these products contained incorrect or no caffeine labelling statements) while the remaining 86% (*n*280) were deemed compliant.

Notified FS contained information on directions for use and were either to be consumed once-a-day (*n*243) or multiple times throughout the day (*n*82). Over a quarter (*n*90) of the once-a-day FS exceeded EFSA's safe single-dose intake of 200mg. Additionally *n*2 of the FS contained caffeine in amounts exceeding EFSA's safe daily intake limit of 400mg.

This study identified FS on the Irish market with high caffeine content, exceeding both EFSA's safe single-dose and daily intake levels, before additional dietary sources of caffeine are considered. Labelling compliance rates in this study are high. The FSAI will continue to monitor this category of FS, as the market of caffeine-containing FS grows.

References

1. Rodak Kamil *et al.* (2021) Caffeine as a Factor Influencing the Functioning of the Human Body Friend or Foe? [Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8467199/>].
2. EFSA panel and working group on caffeine. (2015) *EFSA Journal* 13(5); [Available at: <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2015.4102>].
3. Regulation (EU) No.1169/2011 European Commission 2011; [Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32011R1169>].
4. S.I.No.506/2007 European Communities (Food Supplements) Regulations 2007; [Available at: <https://www.irishstatutebook.ie/eli/2007/si/506/made/en/print>].