

Guaraná: More than caffeine

Company

Pharmaton® (Boehringer Ingelheim/Sanofi)

Problem/opportunity

Guaraná (*Paullinia cupana*) is a common ingredient of functional foods, particularly in South America due to its purported stimulus properties [1]. As guaraná contains caffeine (or a caffeine analogue), we (and the company) wanted to understand whether the psychoactive effects of guaraná could be attributed to its caffeine content alone.

Having been Principal Investigator on the first trial showing cognitive effects of guaraná [2], Scholey was approached to design and conduct a clinical trial to address whether these effects are due to the caffeine contained in guaraná.

Solution

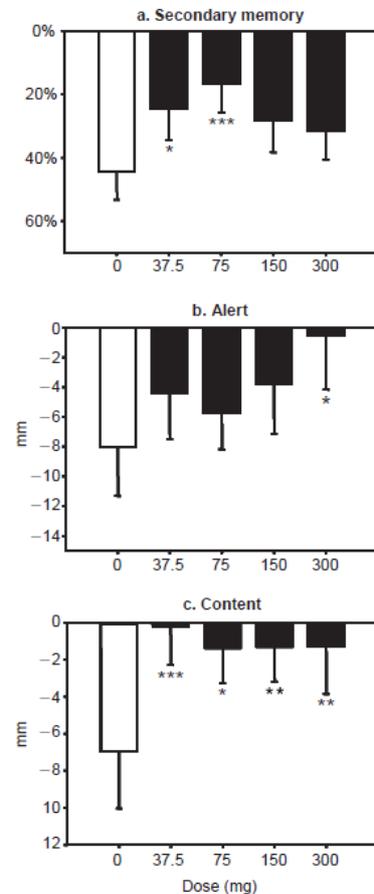
A trial of a standardised guaraná preparation was designed and conducted to evaluate the acute effects of different doses of the product. The guaraná preparation was standardised to contain an amount of 11-12% caffeine. The trial was conducted according to Good Clinical Practice standards.

Our role

We oversaw a dose-ranging study where participants received four different doses of the guaraná extract and a placebo on different days. The order was balanced to minimise 'practice effects'. Mood and cognition were tested across the day.

Outcomes

- We found improvements to mood and cognition associated with various doses of guaraná extract [3], as seen in the graphs (right).
- These effects were particularly evident for secondary memory, alertness and contentment.
- Importantly the effects on secondary memory and contentment were observed in the 37.5 mg and 75 mg dose.
- These doses contain at most 4.5 to 9 mg of caffeine – which is roughly the same caffeine content as a decaffeinated coffee!
- Therefore the psychoactive effects of guaraná are not due to its caffeine content alone.



References

1. Scholey A, Haskell C (2008) Neurocognitive effects of guaraná plant extract. *Drugs of the Future* **33**, 869-874.
2. Kennedy DO, Haskell CF, Wesnes KA, Scholey AB (2004) Improved cognitive performance in human volunteers following administration of guarana (Paullinia cupana) extract: Comparison and interaction with Panax ginseng. *Pharmacology Biochemistry and Behavior* **79**, 401-411.
3. Haskell CF, Kennedy DO, Wesnes KA, Milne AL, Scholey AB (2007) A double-blind, placebo-controlled, multi-dose evaluation of the acute behavioural effects of guaraná in humans. *Journal of Psychopharmacology* **21**, 65-70.

Tags

Guaraná, Mood, Cognition, memory, alertness, contentment, Caffeine, Pharmaton®, Sanofi, Clinical trial