Systematic review and meta-analysis of *Centella asiatica* (L.) Urb. on mood and cognitive function

Panupong Puttarak1, P Dilokthornsakul2, S Saokaew1, T Dhippayom1, C Kongkaew3, R Srumsrir3, A Chuthaputi4 and N Chaiyakunapruk1,4

1Prince of Songkla University, Thailand
2Naresuan University, Thailand
3University of Phayao, Thailand
4Monash University Malaysia, Malaysia
5Ministry of Public Health, Thailand

Statement of the Problem: *Centella asiatica* (L.) Urb. has a long history as herb for brain tonic, mental disorders and memory-enhancing in Asia. A number of clinical studies of *C. asiatica* on mood and cognitive effect have been reported. However, no summarizes the overall evidence of *C. asiatica* on cognitive function.

Methodology & Theoretical Orientation: This study aims to determine the effects of *C. asiatica* on mood and cognitive function. International and Thai databases were searched for clinical studies investigating *C. asiatica*. Outcomes of interest were any measure on mood and cognitive function. Mean changes of the outcomes from baseline were compared by standardized mean difference.

Findings: Eleven randomized controlled trials involving 642 patients were included. *C. asiatica* could increase alert score [SMD: 0.71 (95%CI; 0.01 to 1.41); p = 0.046, I2 = 30.5%] and decrease anger score at 1 hour after treatment [SMD: -0.81 (95%CI; -1.51 to -0.09); p = 0.026, I2 = 36.6%]. Overall effects indicated no significant differences between *C. asiatica* and comparators on every cognitive domain except a comparison of combination products which could decrease time of problem solving in executive function domain [SMD: -0.77 (95%CI; -1.26 to -0.27); p = 0.002, I2 = 0.0%] compared with a comparator. No study reported adverse effect of *C. asiatica*.

Conclusion & Significance: *C. asiatica* could increase alert and decrease anger score. However, *C. asiatica* has no clinical effect on cognitive function. Future well-designed clinical trials of standardized *C. asiatica* are still needed.

Recent Publications


Biography

Panupong Puttarak received his Doctor of Pharmaceutical Science, Prince of Songkla University. 2008. His is a Ph. D (Doctor of Philosophy) in Pharmaceutical Sciences, from Faculty of Pharmaceutical Science, Prince of Songkla University. 2012. Later he started his employment as lecturer at department of Pharmacognosy and Pharmaceutical Botany, Prince of Songkla University, Hat-yai, Songkhla, Thailand. And his expertise fields: Phytochemistry, Standardization, Natural Products, Evidence-based medicine, Clinical pharmacy.