

Introduction: Obesity prevalence has increased during the past few decades, causing a pandemic with an influx in other co-morbidities. Many factors influence weight gain in an obesogenic environment therefore strategies for treating obesity may vary from conventional dietary and physical activity interventions to pharmacotherapy. A shift in unconventional strategies as herbal products for treating obesity have been investigated and one such plant extract is *Caralluma fimbriata* (*C. fimbriata*), found as supplements in the form of capsules or powder sachets. The potential effects of *C. fimbriata* as an appetite suppressant and weight loss supplement was systematically reviewed by the studies included.

Methods: A systematic review of clinical trials reporting the effects of *C. fimbriata* as appetite suppression and anti-obesity supplement was reported according to PRISMA guidelines. Data were obtained by searching three databases: PubMed®, Web of Science® and SciVerse Scopus® for studies published until 30th April 2020.

Results: A total of 7 articles studying *C. fimbriata* satisfied the inclusion and exclusion criteria and belonged to various countries including Australia (3), Cuba (1), India (2) and Spain (1). Almost all studies recruited adults either overweight or obese with a BMI > 25kg/m² (n=5). Parameters assessing obesity, biochemical and appetite factors were analysed via a meta-analysis. Compared to placebo group, *C. fimbriata* extract significantly reduced WC by 1.59 cm (95% CI, -3.07 to -0.10, p = 0.041) and WHR by 0.06 (95% CI, -0.12 to -0.01, p = 0.05) with no significant effects on BW, BMI and HC. Biochemical and appetite parameters outcome with *C. fimbriata* had no significant changes. Side effects of the extract were reported by few studies, most common effects were constipation, diarrhoea, nausea and rashes.

Conclusion: Appetite parameters showed no significant changes and metabolic parameters did not improve with *C. fimbriata* supplementation therefore it is unlikely to recommend *C. fimbriata* as a weight loss supplement and an appetite suppressant.