



CURCUMIN EXTRACT IMPROVES BETA CELL FUNCTIONS IN OBESE PATIENTS WITH TYPE 2 DIABETES: A RANDOMIZED CONTROLLED TRIAL.

Yaikwawong, M ; Jansarikit, L ; Jirawatnotai, S ; Chuengsamarn, S
Nutrition journal. 2024;23(1):119

With Expert Review from Karin Elgar

Take Home Message: Curcumin appears to be safe and effective for the management of patients with T2DM and obesity when given with metformin.

Type 2 diabetes (T2DM) is a chronic metabolic disorder linked to obesity and serious complications. Curcumin, the active compound in turmeric, has shown anti-inflammatory and insulin-sensitising effects. The aim of this study was to evaluate the potential benefits of curcumin in patients with obesity and type 2 diabetes mellitus (T2DM) on β -cell function as well as metabolic and obesity markers. This research was a randomised, double-blind, placebo-controlled trial which enrolled subjects (n=229) for a period of 12-months. Results at 12 months showed significantly better outcomes in the curcumin compared to the placebo group for all metabolic and β -cell-related measures and BMI and body weight reduced significantly more in the curcumin compared to the placebo group. Authors concluded that curcumin treatment in T2DM patients with obesity appeared to improve overall β -cell functions and reduce both insulin resistance and body weight, with very minor adverse effects.

META-ANALYSIS OF THE EFFECT OF CURCUMIN SUPPLEMENTATION ON SKELETAL MUSCLE DAMAGE STATUS

Liu, X ; Lin, L ; Hu, G
PloS one. 2024;19(7):e0299135
With Expert Review from Ana-Paula Agrela

Managing the effects of exercise induced muscle damage (EIMD) is a common concern for many athletes as it can influence training progress and overall performance. Curcumin, the active ingredient in turmeric, has been shown to have anti-inflammatory and analgesic effects, and help exercise training adaptations. The aim of this study was to investigate the potential effects of curcumin supplementation on muscle recovery with a view to making clinical recommendations. This study was a meta-analysis of 14 studies (n=334). The results showed that curcumin supplementation can mitigate skeletal muscle damage indicated by improvements to muscle soreness, range of motion, and the biomarkers of damage, creatinine kinase (CK) and interleukin-6 (IL-6). Low dose supplementation of less than 0.5g for at least one week was optimal for improving muscle soreness, especially in untrained athletes or those who do not undertake regular exercise. Interestingly low doses and single doses were the most effective for improvements to CK. Authors concluded that timing and dose were critical to curcumin efficacy with low dose supplementation being the most effective for EIMD. To limit muscle soreness this should commence one week in advance of exercise. To improve CK and IL-6, a low dose supplement immediately after exercise may be optimal.



EFFICACY AND SAFETY OF CURCUMIN THERAPY FOR KNEE OSTEOARTHRITIS: A BAYESIAN NETWORK META-ANALYSIS

Zhao, J ; Liang, G ; Zhou, G ; et al.
Journal of ethnopharmacology. 2024;321:117493

With Expert Review from Michelle Barrow DProf

Take Home Message: The aim of this systematic review with meta-analysis was to evaluate the efficacy and safety of curcumin, both alone and in combination with other drugs, in Knee Osteoarthritis (KOA) treatment through a Bayesian network meta-analysis.

Knee osteoarthritis (KOA) is a progressive condition characterised by joint inflammation and the breakdown of articular cartilage. Curcumin has been shown to have anti-inflammatory properties. This study aimed to determine, through a Bayesian network meta-analysis, the effect of curcumin alone and in combination with other drugs used in the treatment of KOA. This study was a meta-analysis of 23 randomised controlled trials with a total of 2175 KOA patients. The results showed that compared to placebo, curcumin improved pain according to the visual analogue scale (VAS), the total Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and WOMAC pain score. But did not show any benefit to WOMAC physical function and stiffness. Curcumin showed similar results to NSAIDs at reducing WOMAC stiffness score. Curcumin was shown to mitigate adverse effects associated with NSAIDs. The authors concluded that curcumin alone or in combination with NSAIDs is efficacious and safe in the treatment of KOA.



SAFETY AND EFFICACY OF CURCUMIN IN THE TREATMENT OF ULCERATIVE COLITIS: AN UPDATED SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

Peng, Z ; Li, D ; Wu, N ; Wang, XY ; Sun, GX ; Gao, HB ; Li, HX
Explore (New York, N.Y.). 2025;21(1):103083

Ulcerative Colitis (UC) is a chronic autoimmune disease of the gastrointestinal tract characterised by inflammation and lesions. These result in damage to the mucosal barrier, loss of function and symptoms. Curcumin, which is an anti-inflammatory polyphenol found in turmeric, has been shown to have potential benefits to UC treatment through suppression of inflammation, improvements to mucosal barrier function, and through regulation of the immune system. This study aimed to determine the safety and efficacy of curcumin as an adjunctive treatment for individuals with UC. This study was a meta-analysis of 8 randomised control trials with 482 individuals with UC. The results showed that compared to placebo, adjunctive curcumin treatment resulted in improved clinical remission. Individuals given curcumin also showed both clinical and endoscopic improvements, although endoscopic remission was not observed. No serious adverse events were reported. The authors concluded that curcumin is a promising safe and effective adjunctive treatment for individuals with UC.

