INFOBITE

Inflammation, Food & Diet

The Effect of a Ketogenic Diet versus Mediterranean Diet on Clinical and Biochemical Markers of Inflammation in Patients with Obesity and Psoriatic Arthritis: A Randomized Crossover Trial

VAIA LAMBADIARI, PELAGIA KATSIMBRI, AIKATERINI KOUNTOURI, ET AL.
JOURNAL: INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES 2024;25(5):2475

Psoriatic arthritis is an autoimmune disorder marked by persistent inflammation. Recent studies suggest a connection between obesity and psoriasis, as visceral fat contributes to systemic inflammation through the release of inflammatory cytokines and adipocytokines. Dietary approaches like the Mediterranean diet (MD) and Ketogenic diet (KD) can potentially aid in weight loss and inflammation reduction.

This randomised crossover study examined the effectiveness of a classic Mediterranean diet and an isocaloric Ketogenic diet over twenty-two weeks in patients with psoriatic arthritis, obesity, and pre-existing psoriasis.

The findings demonstrated significant improvements in weight, body mass index, waist circumference, total fat mass, and visceral fat with both the Mediterranean and Ketogenic diets. However, the Ketogenic diet showed a statistically significant improvement in psoriasis and psoriatic arthritis, as well as in the levels of inflammatory biomarkers, compared to the Mediterranean diet.

Healthcare professionals can leverage the findings of this study to understand the beneficial effects of the Mediterranean and Ketogenic diets on metabolic markers, inflammatory markers, and psoriasis. However, additional robust studies are needed to confirm these results, as the existing research on this topic is limited. ■

A Mediterranean Diet Pattern Improves Intestinal Inflammation Concomitant with Reshaping of the Bacteriome in Ulcerative Colitis: a Randomised Controlled Trial

Reviewed by OUR EXPERTS

NATASHA HASKEY, MEHRBOD ESTAKI, JIAYU YE, ET AL.
JOURNAL: JOURNAL OF CROHN'S & COLITIS 2023;17(10):1569-1578

With Expert Review from Wilma Kirsten and Gail Brady

Ulcerative colitis (UC) is a chronic inflammatory bowel disease (IBD) with debilitating symptoms. Patients live with considerable symptom burden, increased risk of disability, and lower quality of life despite medical treatment. The aim of this study was to investigate the efficacy of the Mediterranean Diet Pattern (MDP) compared with a Canadian Habitual Diet Pattern (CHD) on UC disease activity, inflammation, and the gut microbiome. This study was a randomised controlled trial where participants were randomly assigned to follow the MDP or CHD for 12 weeks. Results showed that: - the MDP reduces clinical symptoms and reduces inflammation. - the MDP promotes faecal secretory immunoglobulin A [the principal weapon protecting us from pathogens and toxins that might otherwise penetrate mucosal surfaces. - the MDP is positively associated with microbes that produce potentially beneficial metabolites. - the MDP is negatively associated with microbes predicted to carry pathobiont traits. - the MDP increases faecal short-chain fatty acids production. Authors conclude that the MDP is well tolerated and is a reasonable, healthy eating pattern that practitioners can recommend to patients with UC in remission to prevent relapses, in addition to their standard medical therapy. ■

Modulating a prebiotic food source influences inflammation and immune-regulating gut microbes and metabolites: insights from the BE GONE trial.

NADIM J AJAMI, CARRIE R DANIEL, PAUL SCHEET, ET AL.
JOURNAL: EBIOMEDICINE 2023;98():104873

The consumption of beans has been shown to stimulate the growth of beneficial gut microbiota, and whilst cheap and accessible, they are rarely eaten as part of the average western diet. This dietary intervention trial aimed to determine the effect of a 16-week increase in navy bean consumption on gut microbiota and their metabolites in 55 individuals. The results showed that 1 cup/day of navy beans increased gut microbiota diversity and increased the beneficial bacteria Faecalbacterium, Eubacterium, and Bifidobacterium. Bean consumption also increased the metabolites pipecolic acid, and decreased indole and systemic inflammation. It was concluded that bean consumption can enhance the gut microbiome and regulate biomarkers associated with obesity. ■

Multifunctional dietary approach reduces intestinal inflammation in relation with changes in gut microbiota composition in subjects at cardiometabolic risk: the SINFONI project

HUGO HORNERO-RAMIREZ, ARIANNE MORISETTE, BRUNO MARCOTTE, ET AL.
JOURNAL: GUT MICROBES 2024;17(1):2438823

Cardiometabolic diseases (CM) are diseases which include obesity, type 2 diabetes, and heart disease are considered to be inflammatory diseases. Inflammation has been associated with gut microbiota disturbances but these may be limited with dietary changes. This 2-month randomised control trial of 30 individuals aimed to determine how a multifunctional dietary approach can help reduce inflammation in the intestines and improve gut health in individuals at risk of CM diseases. The multi-functional diet included cereal products enriched with polyphenols, fibres, slowly-digestible starch, and omega-3 fatty acids. The results showed that this dietary approach led to positive changes in gut microbiota composition and a reduction in intestinal inflammation, suggesting a link between diet, gut health, and CM risk factors. Inflammation in the rest of the body remained unchanged. It was concluded that a multifunctional diet including active ingredients is effective at targeting low-grade inflammation. This study could be used by healthcare professionals to understand how specific dietary changes can improve gut health and reduce inflammation in individuals at risk of CM diseases. ■