



No Effects of Omega-3 Supplementation on Kynurenine Pathway, Inflammation, Depressive Symptoms, and Stress Response in Males: A Placebo-Controlled Trial.

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Increased inflammation and stress have been associated with the development of symptoms of depression. This may be as a result of changes in the kynurenine (KYN) pathway, which is involved in the production of mood elevating hormones. Omega-3 fatty acids may aid regulation of inflammation and the stress response in the body and may therefore benefit individuals with depression.

This randomised control trial of 47 healthy male adults aimed to determine the effects of omega-3 polyunsaturated fatty acids (omega-3 PUFAs) on various health factors, including the KYN pathway, inflammation, depressive symptoms, and stress response.

The findings revealed that omega-3 supplementation significantly improved inflammatory but did not significantly affect KYN metabolism, depressive symptoms, or the body's response to stress. This suggests that, in this study, omega-3 PUFAs did not provide the expected benefits in these areas for the male participants involved.

It was concluded that increased omega-3 levels in men improved inflammation but had no effect on KYN metabolism, depressive symptoms, and mood. This study could be used by healthcare professionals to understand that omega-3 supplementation does not appear to influence the KYN pathway, inflammation, or depressive symptoms in males. ■

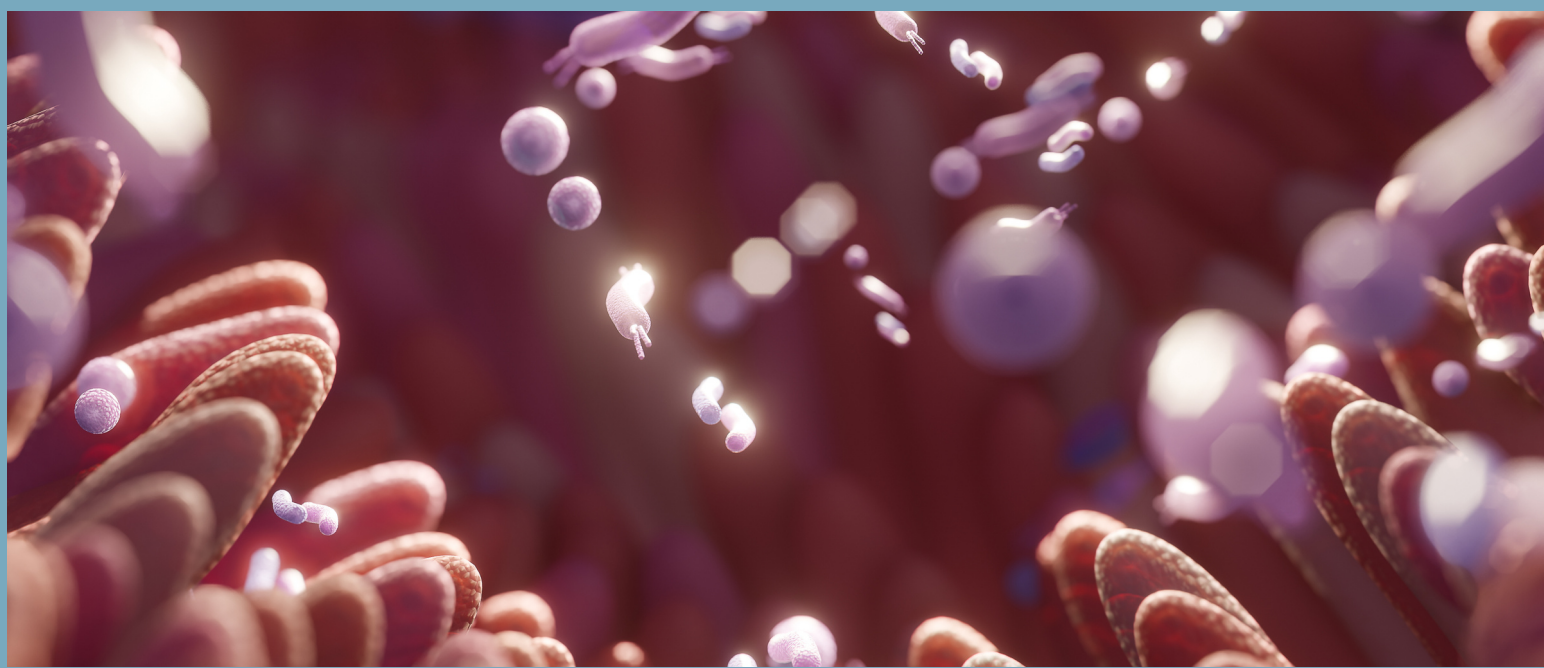
Mindfulness-based stress reduction intervention during pregnancy changes maternal brain.

FÀTIMA CRISPI, TERESA OLLER-GUZMÁN, NOELIA ENCABO, ET AL.
JOURNAL: SCIENTIFIC REPORTS 2025;15(1):21929

Pregnancy is being recognised as a more stressful period of life than previously thought. Mindfulness-Based Stress Reduction (MBSR) is a Buddhist meditation that aims to improve mindfulness and has been studied in chronic pain, hypertension, anxiety, and depressive disorders. However it is unclear how MBSR may affect the maternal brain. This secondary analysis of the randomised control trial IMPACT BCN, which allocated 76 pregnant women to MBSR or usual care for 8-weeks aimed to evaluate to the effect of MBSR on mindfulness during pregnancy on the brain.

The results showed that women in the mindfulness group had a larger surface area in a specific part of the brain involved in emotional regulation and self-awareness and self-control compared to those who received usual care. Additionally, they showed higher levels of myo-inositol, a substance linked to brain health.

These findings suggest that mindfulness practices during pregnancy may lead to measurable changes in brain structure and metabolism. This study could be used by healthcare professionals to understand the potential benefits of mindfulness interventions for pregnant women. ■



Probiotic-mediated modulation of gut microbiome in students exposed to academic stress: a randomized controlled trial.

KARLIEN GEBOERS, JORGE FRANCISCO VÁZQUEZ-CASTELLANOS, LUCAS FERREIRA MACIEL, ET AL.
JOURNAL: NPJ BIOFILMS AND MICROBIOMES 2025;11(1):140

The gut microbiome may influence mental health through a two-way communication pathway known as the gut-brain axis. This analysis of a RCT aimed to determine how a specific probiotic, *Lacticaseibacillus rhamnosus* CNCM I-3690, affects the gut microbiome in 79 healthy students facing academic stress. The researchers analysed the gut microbiome and assessed stress and anxiety through various methods.

The results showed that probiotic consumption led to changes in the gut microbiome, which resulted in lower self-reported anxiety levels suggesting a potential link between gut health and stress management.

It was concluded that probiotics may play a role in influencing mental well-being through their effects on gut bacteria, particularly during stressful periods like exams. ■

Dietary Adherence Is Associated with Perceived Stress, Anhedonia, and Food Insecurity Independent of Adiposity.

DOUGLAS C CHANG, EMMA J STINSON, MARCI E GLUCK, ET AL.
JOURNAL: NUTRIENTS 2024;16(4):

Adherence to a prescribed dietary intervention is a key determinant of successful weight management and overall health outcomes. Previous research has identified factors such as stress, the inability to feel pleasure (anhedonia), and food insecurity as being associated with poor dietary behaviours and weight gain, and their combined influence on dietary adherence remains unclear. This analysis of a six-week clinical trial of 60 individuals with obesity and normal weight aimed to assess adherence to a prescribed diet through weekly and daily evaluations.

The results showed that higher levels of perceived stress and anhedonia were linked to body fat percentage, while food insecurity did not show a significant relationship with body fat percentage. Higher perceived stress, anhedonia, and food insecurity were associated with lower adherence scores.

It was concluded that psychological factors like stress and anhedonia can influence body composition, regardless of a person's weight and that these may play a more important role in dietary adherence. ■