



IMPROVING STRESS MANAGEMENT, ANXIETY, AND MENTAL WELL-BEING IN MEDICAL STUDENTS THROUGH AN ONLINE MINDFULNESS-BASED INTERVENTION: A RANDOMIZED STUDY.

Fazia, T ; Bubbico, F ; Nova, A ; et al.
Scientific reports. 2023;13(1):8214

Medical students commonly experience anxiety, depression, burnout and emotional discomfort due to the pressures of medical school. This study of 362 medical students at Italian Universities evaluated the effectiveness of a 5-week online mindfulness-based intervention (MBI), consisting of an introductory session, 8 sessions of 35 min meditation and 10 min yoga, and one dietary advice/Q&A session with a nutritionist.

The control group received no intervention. Effectiveness was measured through a variety of validated questionnaires for perceived stress, anxiety, wellbeing, emotional health, resilience and cognition. The MBI was effective in improving perceived stress, mental wellbeing, emotional regulation, resilience, tendency to mind-wandering, ability to maintain attention and overall distress, although effect sizes for all outcomes were small. No statistically significant effect was seen for the anxiety rating.

Interestingly, two cohorts were included in this study and whilst one benefitted from the programme, the other did not. The authors conclude that adopting MBI may help improve students' wellbeing.



EFFECT OF AEROBIC EXERCISE, SLOW DEEP BREATHING AND MINDFULNESS MEDITATION ON CORTISOL AND GLUCOSE LEVELS IN WOMEN WITH TYPE 2 DIABETES MELLITUS: A RANDOMIZED CONTROLLED TRIAL.

Obaya, HE ; Abdeen, HA ; Salem, AA ; et al. Frontiers in physiology. 2023;14:1186546
With Expert Review by Kirsty Baxter

Stress is considered to be an important factor in type 2 diabetes mellitus (T2DM) and aerobic exercise can help modulate the stress response as well as being important in the management of diabetes. Mindfulness meditation and deep breathing have also been shown to have positive effects on both stress and T2DM. This 6-week single-blind, randomised, controlled trial evaluated the effect of 10 min slow deep breathing and 10 min mindfulness meditation following a 40 min aerobic exercise programme, compared to the 40 min aerobic exercise alone, on fasting blood glucose (FBG) and cortisol levels in 58 stressed women with T2DM. FBG and cortisol levels improved in both groups but more so in the group who received the deep breathing and mindfulness meditation in addition to the exercise intervention: 20% vs 30% reduction in cortisol and 10% vs 15% reduction in FBG. The authors conclude that adding slow deep breathing and mindfulness meditation to an exercise programme may be useful in the management of stressed women with T2DM and reduce their cardiometabolic risk.

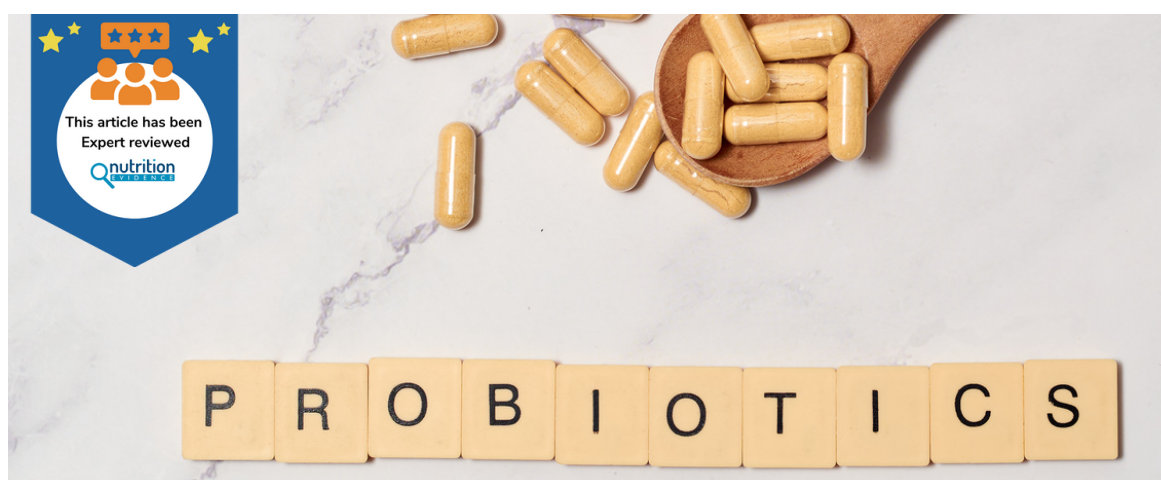
TAKE HOME MESSAGE: Practitioners could consider slow deep breathing and mindfulness meditation, added to aerobic exercise, as potentially useful components of the T2DM management program for stressed women.

BIFIDOBACTERIUM LONGUM SUBSP. LONGUM REDUCES PERCEIVED PSYCHOLOGICAL STRESS IN HEALTHY ADULTS: AN EXPLORATORY CLINICAL TRIAL.

Boehme, M ; Rémond-Derbez, N ; Lerond, C ;
Nutrients. 2023;15(14)
With Expert Review from Ana-Paula Agrela

A randomised, placebo-controlled, two-arm, parallel, double-blind exploratory clinical trial was conducted to investigate the effect Bifidobacterium longum (BL) on stress-related psychological and physiological parameters and acute stress in healthy adults. 47 participants between the ages of 25-65 years old with mild-to-moderate psychological stress received 1x10¹⁰ CFU of Bifidobacterium longum (BL) strain NCC3001 daily or a placebo for 6 weeks.

Over the trial period, there was a significant decrease in perceived stress in the probiotic group (21.4%) compared to the placebo group (-10.2%), p = 0.017 and a significant improvement in subjective sleep in the probiotic group compared to the placebo group (p = 0.037). Authors conclude that oral supplementation with BL NCC3001 may have beneficial effects on stress relief and improve subjective sleep quality in a healthy adult population reporting moderate levels of psychological stress.



FEED YOUR MICROBES TO DEAL WITH STRESS: A PSYCHOBIOLOGIC DIET IMPACTS MICROBIAL STABILITY AND PERCEIVED STRESS IN A HEALTHY ADULT POPULATION.

Berding, K ; Bastiaanssen, TFS ; Moloney, GM ; et al. Molecular psychiatry. 2022
With Expert Review from Kate Lawrence

A small randomised controlled trial explored the impact of a psychobiotic diet, compared to a control diet, on perceived stress, sleep and gut microbiota. A high psychobiotic diet is one high in prebiotic and fermented foods. 45 healthy adults (18-59 years) with poor dietary habits were recruited and randomly allocated to the active intervention (psychobiotic diet advice) or control intervention (Irish healthy eating guidelines) over 4 weeks. The results over the trial period showed that perceived stress improved in the psychobiotic diet group, along with subjective sleep quality. Only subtle changes were seen in microbial composition and function between the 2 groups. Neither cortisol awakening response nor measured immune markers were affected by dietary intervention. Authors concluded that using a diet targeted to positively modulate gut-brain communication may have the potential for reducing stress and improving sleep. However they caution that, although improvements in stress were only observed for the intervention group, the post-intervention stress levels were not significantly different between the groups.

TAKE HOME MESSAGE: Eating foods known to have a positive influence on gut microbial composition could elicit benefits in terms of reducing perceived stress and improving sleep quality.

