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Food & mood: A review of supplementary prebiotic and probiotic interventions in the treatment of anxiety and depression in adults

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Background: A bidirectional relationship exists between the brain and the gastrointestinal tract. Foods containing bacteria that positively influence the gastrointestinal microbiome are termed, probiotics; compounds that promote the flourishing of these bacteria are termed, prebiotics. Whether microbiome influencing therapies could treat psychiatric conditions, including depression and anxiety, is an area of interest. Presently, no established consensus for such treatment exists.

Methods: This systematic review analyses databases and grey literature sites to investigate pre and/or probiotics as treatments for depression and/or anxiety disorders. Articles included are from within 15 years. Pre-determined inclusion exclusion criteria were applied, and articles were appraised for their quality using a modified-CASP checklist. This review focuses specifically on quantitative measures from patients with clinical diagnoses of depression and/or anxiety disorders.

Result: 7 studies were identified. All demonstrated significant improvements in one or more of the outcomes measuring the of effect taking pre/probiotics compared with no treatment/placebo, or when compared to baseline measurements.

Discussion: Our review suggests utilising pre/probiotic may be a potentially useful adjunctive treatment. Furthermore, patients with certain co-morbidities, such as IBS, might experience greater benefits from such treatments, given that pre/probiotic are useful treatments for other conditions that were not the primary focus of this discourse. Our results are limited by several factors: sample sizes (adequate, though not robust); short study durations, long-term effects and propensity for remission undetermined.

Conclusion: Our results affirm that pre/probiotic therapy warrants further investigation. Efforts should aim to elucidate whether the perceived efficacy of pre/probiotic therapy in depression and/or anxiety disorders can be replicated in larger test populations, and whether such effects are maintained through continued treatment, or post cessation. Interventions should also be investigated in isolation, not combination, to ascertain where the observed effects are attributable to. Efforts to produce mechanistic explanations for such effect should be a priority.

Biography

Dr. Sanjay Noonan is currently working as a medical doctor in London's Croydon University Hospital NHS Trust having completed a medical degree at Brighton & Sussex Medical school and a BA 1st class Hons. at the University of Bristol in English Literature and Philosophy.