



Can insulin sensitivity-enhancing lifestyle- and dietary related adjuncts enhance antidepressant treatment response? Evidence from a systematic review and meta-analysis

Benedict K Ryan

School of Pharmacy & Biomolecular Sciences, Dublin, Ireland

Abstract

Depression is the leading cause of disability worldwide and is known to be associated with insulin resistance (IR). Insulin resistance worsens the symptoms of depression and reduces the effectiveness of antidepressant medications in some depressed patients. Many studies have assessed the effect of adjunctive exercise, vitamin D supplementation, zinc supplementation, magnesium, probiotics, unsaturated fatty acids, and hygienic-dietary recommendations (sleep hygiene, healthy diet, physical activity, and sunlight exposure, combined or singly used), individually, on antidepressant treatment response. However, despite the reported insulin sensitivity-enhancing potential of these adjuncts, no systematic review has collectively analysed their antidepressant effect with regards to insulin sensitivity. Methods/design: In this systematic review, the effect of the above-stated adjuncts on antidepressant treatment response (primary outcome) in comparison with treatment as usual with or without adjunctive placebo after identifying the relevant trials from a systematic literature search were analysed. Randomised controlled trials involving clinically depressed patients with a diagnosis of major depressive, dysthymic or bipolar disorder were considered. Changes in insulin sensitivity parameters, following treatment, were analysed as the secondary outcome (if available). Effect estimates of the included trials were combined using random-effects meta-analysis, while addressing risk of bias issues. Any significant heterogeneity between studies was explored using sensitivity and subgroup analyses. Results: The interventions had a significant antidepressant effect. Conclusion: The finding that antidepressant treatment response may be improved through using insulin sensitivityenhancing lifestyle and dietary adjuncts is worthy of further exploration.

Biography

Benedict K Ryan was awarded his PhD in Neuroscience by Trinity College Dublin in 2005. He is currently the Principal Investigator of the Psychoneuroendocrinology Research Group in the School of Pharmacy and Biomolecular Sciences at the Royal College of Surgeons in Ireland. Dr Ryan's research is directed at furthering our understanding of treatment resistant depression and in particular how metabolic dysfunction contributes to antidepressant ineffectiveness.

Publications

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