Metabolic Psychiatry: the potential role of therapeutic carbohydrate restriction

'Implementing a KD in patients with mental disorders seems to be a feasible and well-tolerated approach, resulting in psychiatric symptom reduction and improvements in metabolic health.' Boltri et al., 2025

March, 2025 Nutrition Network

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Metabolic psychiatry is a new area of interest that acknowledges the connection between metabolism and mood. Metabolic disturbances drive brain energy deficiency, neurotransmitter imbalances, and network instability. This relationship between metabolism, neurology, and mental health is highlighted by the use of epilepsy medication for some mental health disorders and, in that sense, there is a clear history, and many decades of research reflecting the potential of the ketogenic diet for the benefit of mental health.

1. Sethi, S. and Ford, J.M. (2022) 'The Role of Ketogenic Metabolic Therapy on the Brain in Serious Mental Illness: A Review', Journal of Psychiatry and Brain Science, 7(5). Available at: https://doi.org/10.20900/jpbs.20220009.

Several recent studies have demonstrated the benefit of a ketogenic therapy in participants with severe mental illness (below). This approach may require a higher level of ketones (0.5 – 5 mM) for therapeutic effect, and good adherence appears to influence outcomes.

1. Danan, A. et al. (2022) 'The Ketogenic Diet for Refractory Mental Illness: A Retrospective Analysis of 31 Inpatients', Frontiers in Psychiatry, 13, p. 951376. Available at: https://doi.org/10.3389/fpsyt.2022.951376.

2. Sethi, S. et al. (2024) 'Ketogenic Diet Intervention on Metabolic and Psychiatric Health in Bipolar and Schizophrenia: A Pilot Trial', Psychiatry Research, 335, p. 115866. Available at: https://doi.org/10.1016/j.psychres.2024.115866.

3. Campbell, I.H. *et al.* (2025) 'A pilot study of a ketogenic diet in bipolar disorder: clinical, metabolic and magnetic resonance spectroscopy findings', *BJPsych Open*, 11(2), p. e34. Available at: https://doi.org/10.1192/bjo.2024.841.

Ketogenic therapy for mental health results in significant changes in metabolism. So medical supervision in transition and implementation is recommended, especially if you are on any medication. Alterations in metabolism and neurotransmitters can cause symptoms (transient hypomania or other mood instability) requiring bridging medications or other psychological support. In this setting a ketogenic diet may need to be modified for best results and medication adjustment may be required.

1. Laurent, N. (2024) 'From theory to practice: challenges and rewards of implementing ketogenic metabolic therapy in mental health', Frontiers in Nutrition, 11. Available at: https://www.frontiersin.org/articles/10.3389/fnut.2024.1331181.

The improvement in mood, via effects on metabolism (energy, insulin resistance, inflammation, and neurotransmitter regulation) may lead to the reduction of medication over time, and the possibility of remission of symptoms for some individuals (medical supervision required). Though the timeframe for improvements can vary among individuals, studies are reflecting benefits in the 6-12 week period.

1. Calabrese, L., Frase, R. and Ghaloo, M. (2024) 'Complete remission of depression and anxiety using a ketogenic diet: case series', Frontiers in Nutrition, 11. Available at: https://doi.org/10.3389/fnut.2024.1396685.

Overall, the experiences of people following a ketogenic diet for improving mood appear to be positive, with benefits reported in areas such as psychological well-being, sleep, and food cravings, that outweighed any negative experiences.

1. Bellamy, E.L. et al. (2024) 'Understanding the experiences of ketogenic metabolic therapy for people living with varying levels of depressive symptoms: a thematic analysis', Frontiers in Nutrition, 11. Available at: https://doi.org/10.3389/fnut.2024.1397546.

While the application of therapeutic carbohydrate restriction (TCR) for mental health is steadily gaining interest, there are various streams of evidence that are established and point to the role of TCR in mood disorders. Studies reflect that mood disorders are influenced by food choices, may be associated with nutrient deficiencies, and are more common in those with disorders of glucose regulation (like insulin resistance and diabetes). In this context, a well-formulated reduced carbohydrate or ketogenic diet introduces whole, nutrient dense foods, and addresses disorders of metabolism.

Individual responses to dietary composition can vary so appropriate medical monitoring is advised. Patients who are taking medication should consult with their doctor as the following clinical guidelines (Society of Metabolic Health Practitioners - Hite et al.) may need to be considered.