# Research Roundup – April 2025

New this month in therapeutic carbohydrate reduction and metabolic health.

Curated by Sarah Rice BSc. (Hons), MCOptom (UK), MHP, NNP

**Metabolic Studies**


1. Biyikoglu, H., Robertson, M.D. and Collins, A.L. (2025) 'Isolating the acute metabolic effects of carbohydrate restriction on postprandial metabolism with or without energy restriction: a crossover study', *European Journal of Nutrition*, 64(3), p. 133. Available at: https://doi.org/10.1007/s00394-025-03646-5.
2. Brazaitis, M. *et al.* (2025) 'Six-Day Fasting Causes Temporary Increases in Both Antioxidant Capacity and Oxidative Stress in Healthy Young Men: A Randomized Controlled Trial', *Antioxidants*, 14(3), p. 269. Available at: https://doi.org/10.3390/antiox14030269.
3. Fournier, E. *et al.* (2025) 'Low-Carbohydrate Diets for the Management of Pediatric Obesity: A Systematic Review and Meta-analysis', *Nutrition Reviews*, p. nuaf029. Available at: https://doi.org/10.1093/nutrit/nuaf029. ABSTRACT
4. Khodarahmi, M., Tabrizi, F.P.F. and Askari, G. (2025) 'The effect of low-carbohydrate diets, based on changes in intake of dietary saturated fats on circulating TNF-α and interleukin- 6 levels in adults: a systematic review and meta-analysis of randomized controlled trials', *BMC Nutrition*, 11, p. 76. Available at: https://doi.org/10.1186/s40795-025-01062-w.
5. Klement, R.J. *et al.* (2025) 'Subjective Experiences and Blood Parameter Changes in Individuals From Germany Following a Self-Conceived "Carnivore Diet": An Explorative Study', *Cureus*, 17. Available at: https://doi.org/10.7759/cureus.82521.
6. Kolivas, D. *et al.* (2025) 'mHealth low carbohydrate dietary intervention ameliorates glycaemic profile, blood pressure and weight status in people with type 2 diabetes', *npj Metabolic Health and Disease*, 3(1), pp. 1–10. Available at: https://doi.org/10.1038/s44324-025-00053-6.
7. Ludwig, D.S., Willett, W.C. and Putt, M.E. (2025) 'Wash-in and washout effects: mitigating bias in short term dietary and other trials', *BMJ*, 389, p. e082963. Available at: https://doi.org/10.1136/bmj-2024-082963.
8. Mohammadzadeh, M. *et al.* (2025) 'Impact of Fasting Mimicking Diet (FMD) on cardiovascular risk factors: a systematic review and meta-analysis of

randomized control trials', *Diabetology & Metabolic Syndrome*, 17(1), p. 137. Available at: https://doi.org/10.1186/s13098-025-01709-5.
9. Paskaleva, I.N. *et al.* (2025) 'Low-Carbohydrate (Ketogenic) Diet in Children with Obesity: Part 1—Diet Impact on Anthropometric Indicators and Indicators of Metabolic Syndrome and Insulin Resistance', *Diseases*, 13(4), p. 94. Available at: https://doi.org/10.3390/diseases13040094.
10. Ramonda, R. *et al.* (2025) 'Ketogenic diet improves disease activity and cardiovascular risk in psoriatic arthritis: A proof of concept study', *PLOS One*, 20(4), p. e0321140. Available at: https://doi.org/10.1371/journal.pone.0321140.
11. Roberts, C.G.P. *et al.* (2025) 'Illnesses associated with ketosis including diabetic ketoacidosis during very low carbohydrate and ketogenic diets', *Diabetes, Obesity & Metabolism*, 27(5), pp. 2531–2539. Available at: https://doi.org/10.1111/dom.16252.
12. Selvaraj, S. *et al.* (2025) 'Crossover Trial of Exogenous Ketones on Cardiometabolic Endpoints in Heart Failure With Preserved Ejection Fraction', *JACC. Heart failure*, pp. S2213-1779(25)00237–9. Available at: https://doi.org/10.1016/j.jchf.2025.03.002.
13. Siedzik, K. *et al.* (2025) 'Impact of a Fish-Based Restrictive Ketogenic Diet on Body Composition and Strength Capacity: A Pre–Post Study', *Nutrients*, 17(8), p. 1297. Available at: https://doi.org/10.3390/nu17081297.
14. Soto-Mota, A. *et al.* (2025) 'Plaque Begets Plaque, ApoB Does Not', *JACC: Advances*, 0(0). Available at: https://doi.org/10.1016/j.jacadv.2025.101686. (Letter To Editor; Kirwan et al., 2025)
15. Steele, C. *et al.* (2025) 'Time-restricted eating and autosomal dominant polycystic kidney disease: a pilot, randomized clinical trial', *Clinical Kidney Journal*, 18(4), p. sfaf069. Available at: https://doi.org/10.1093/ckj/sfaf069.
16. Zeng, J. *et al.* (2025) 'Effects of different dietary patterns on glucose management in type 1 diabetes: a systematic review and meta-analysis of randomized controlled trials', *eClinicalMedicine*, 83, p. 103222. Available at: https://doi.org/10.1016/j.eclinm.2025.103222.

**General Reviews**

1. Balestra, F. *et al.* (2025) 'Advancing Obesity Management: the Very Low-Energy Ketogenic therapy (VLEKT) as an Evolution of the "Traditional" Ketogenic Diet', *Current Obesity Reports*, 14(1), p. 30. Available at: https://doi.org/10.1007/s13679-025-00622-2.

2. Emanuele, F. *et al.* (2025) 'Ketogenic Diet in Steatotic Liver Disease: A Metabolic Approach to Hepatic Health', *Nutrients*, 17(7), p. 1269. Available at: https://doi.org/10.3390/nu17071269.
3. Mechchate, H. (2025) 'Ketone Bodies in Renal Function and Diabetic Kidney Disease', *The Journal of Nutritional Biochemistry*, p. 109915. Available at: https://doi.org/10.1016/j.jnutbio.2025.109915.
4. Suresh, V.V. *et al.* (2025) 'Not Just an Alternative Energy Source: Diverse Biological Functions of Ketone Bodies and Relevance of HMGCS2 to Health and Disease', *Biomolecules*, 15(4), p. 580. Available at: https://doi.org/10.3390/biom15040580.

**Neurology**

1. Abbasi, H. (2025) 'Ketogenic Diet as a Brain-targeted Therapy in Psychogenic Nonepileptic Seizures: A Neuroimaging Findings-based Nutritional Hypothesis', *Medical Hypotheses*, 198, p. 111625. Available at: https://doi.org/10.1016/j.mehy.2025.111625. ABSTRACT
2. de Farias, E. *et al.* (2025) 'Efficacy of the Ketogenic Diet with and Without Medium-chain Triglyceride (MCT) Supplementation in Parkinson's Disease: A Systematic Review and Single-arm Meta-analysis (P7-5.030)', *Neurology*, 104(7_Supplement_1), p. 2357. Available at: https://doi.org/10.1212/WNL.0000000000209094.
3. Hitawala, G. and Shulman, L.M. (2025) 'Can a Ketogenic Diet Alter the Course of Parkinson's Disease?', *Parkinsonism & Related Disorders*, 134, p. 107634. Available at: https://doi.org/10.1016/j.parkreldis.2025.107634.
4. Janssen-Aguilar, R. *et al.* (2025) 'The impact of ketogenic diet on the frequency of psychogenic non-epileptic seizures (PNES): A feasibility randomized pilot study', *Epilepsia Open*, 10(2), pp. 602–608. Available at: https://doi.org/10.1002/epi4.13131.
5. Liu, L. *et al.* (2025) 'Therapeutic Efficacy of a Modified Ketogenic Diet in Autism Spectrum Disorder: A Randomized Controlled Trial'. Available at: https://doi.org/10.21203/rs.3.rs-6172026/v1. (preprint)
6. Luong, T.V. *et al.* (2025) 'A three-week Ketogenic Diet increases Global Cerebral Blood Flow and Brain-Derived Neurotrophic Factor', *The Journal of Clinical Endocrinology & Metabolism*, p. dgaf207. Available at: https://doi.org/10.1210/clinem/dgaf207.
7. Ozler, E. and Sanlier, N. (2025) 'Nutritional Approaches in Autism Spectrum Disorder: A Scoping Review', *Current Nutrition Reports*, 14(1), p. 61. Available at: https://doi.org/10.1007/s13668-025-00655-y.

8. Shabbir, I. *et al.* (2025) 'Investigating the Therapeutic Potential of the Ketogenic Diet in Modulating Neurodegenerative Pathophysiology: An Interdisciplinary Approach', *Nutrients*, 17(7), p. 1268. Available at: https://doi.org/10.3390/nu17071268.
9. Sun, W. *et al.* (2025) 'Energy metabolism disorders in migraine: triggers, pathways, and therapeutic repurposing', *Frontiers in Neurology*, 16, p. 1561000. Available at: https://doi.org/10.3389/fneur.2025.1561000.
10. Wiggins, A. *et al.* (2025) 'Investigation of the Impact of a Low-Carbohydrate Diet on The Chronic Pain Experience Among Adults with an Acquired Limb Loss: A Pilot Study', *Journal of Pain Research*, Volume 18, pp. 2025–2034. Available at: https://doi.org/10.2147/JPR.S507742.

**Metabolic Psychiatry**

1. Borrego-Ruiz, A. and Borrego, J.J. (2025) 'Therapeutic effects of ketogenic diets on physiological and mental health', *Exploration of Foods and Foodomics*, 3, p. 101079. Available at: https://doi.org/10.37349/eff.2025.101079.
2. Calabrese, L. (2025) 'Remission of OCD and ulcerative colitis with a ketogenic diet: Case Report', *Frontiers in Psychiatry*, 16, p. 1541414. Available at: https://doi.org/10.3389/fpsyt.2025.1541414.
3. Jiang, Y. *et al.* (2025) 'Ketogenic Diet and Gut Microbiota: Exploring New Perspectives on Cognition and Mood', *Foods*, 14(7), p. 1215. Available at: https://doi.org/10.3390/foods14071215.
4. MacDonald, A.J. and Palmer, C.M. (2025) 'Ketogenic diet as a therapeutic intervention for obsessive-compulsive disorder: a case series of three patients', *Frontiers in Nutrition*, 12, p. 1568076. Available at: https://doi.org/10.3389/fnut.2025.1568076.
5. Unwin, J. *et al.* (2025) 'Low carbohydrate and psychoeducational programs show promise for the treatment of ultra-processed food addiction: 12-month follow-up', *Frontiers in Psychiatry*, 16, p. 1556988. Available at: https://doi.org/10.3389/fpsyt.2025.1556988.

nutrition network