

Roundup - July 2023

New this month in therapeutic carbohydrate restriction and metabolic health.

Metabolic (TCR intervention)

1. Aronica, L. *et al.* (2023) 'Weight, insulin resistance, blood lipids, and diet quality changes associated with ketogenic and ultra low-fat dietary patterns: a secondary analysis of the DIETFITS randomized clinical trial', *Frontiers in Nutrition*, 10. Available at: <https://www.frontiersin.org/articles/10.3389/fnut.2023.1220020>.
2. Berg-Hansen, K. *et al.* (2023) 'Beneficial Effects of Ketone Ester in Patients With Cardiogenic Shock: A Randomized, Controlled, Double-Blind Trial', *JACC. Heart failure*, pp. S2213-1779(23)00306-2. Available at: <https://doi.org/10.1016/j.jchf.2023.05.029>. ABSTRACT
3. Kristensen, K.B. *et al.* (2023) 'Effects of a low-carbohydrate-high-protein pre-exercise meal in type 1 diabetes - a randomised, crossover trial', *The Journal of Clinical Endocrinology and Metabolism*, p. dgad427. Available at: <https://doi.org/10.1210/clinem/dgad427>. ABSTRACT
4. Munisekhar, K. *et al.* (2022) 'Lipid profile in healthy human volunteers before and after consuming ghee', *Bioinformation*, 18(9), pp. 742-747. Available at: <https://doi.org/10.6026/97320630018742>.
5. Oliveira, B.F. *et al.* (2023) 'Impact of a Low-Carbohydrate Compared with Low-Fat Breakfast on Blood Glucose Control in Type 2 Diabetes: A Randomized Trial', *The American Journal of Clinical Nutrition*, 118(1), pp. 209-217. Available at: <https://doi.org/10.1016/j.ajcnut.2023.04.032>.
6. Turton, J.L. *et al.* (2023) 'Effects of a low-carbohydrate diet in adults with type 1 diabetes management: A single arm non-randomised clinical trial', *PLOS ONE*, 18(7), p. e0288440. Available at: <https://doi.org/10.1371/journal.pone.0288440>.

Reviews

1. Paoli, A. *et al.* (2023) 'The Effects of Ketogenic Diet on Insulin Sensitivity and Weight Loss, Which Came First: The Chicken or the Egg?', *Nutrients*, 15(14), p. 3120. Available at: <https://doi.org/10.3390/nu15143120>.
2. Storoschuk, K.L., Wood, T.R. and Stubbs, B.J. (2023) 'A systematic review and meta-regression of exogenous ketone infusion rates and resulting ketosis—A tool for clinicians and researchers', *Frontiers in Physiology*, 14, p. 1202186. Available at: <https://doi.org/10.3389/fphys.2023.1202186>.

Women

1. Barrea, L. *et al.* (2023) 'Can the ketogenic diet improve our dreams? Effect of very low-calorie ketogenic diet (VLCKD) on sleep quality', *Journal of Translational Medicine*, 21(1), p. 479. Available at: <https://doi.org/10.1186/s12967-023-04280-7>.
2. Camajani, E. *et al.* (2023) 'Ketogenic Diet as a Possible Non-pharmacological Therapy in Main Endocrine Diseases of the Female Reproductive System: A Practical Guide for Nutritionists', *Current Obesity Reports* [Preprint]. Available at: <https://doi.org/10.1007/s13679-023-00516-1>.

3. Ciaffi, J. *et al.* (2023) 'Efficacy, safety and tolerability of very low-calorie ketogenic diet in obese women with fibromyalgia: a pilot interventional study', *Frontiers in Nutrition*, 10. Available at: <https://www.frontiersin.org/articles/10.3389/fnut.2023.1219321> (full paper this month).
4. Pasca, L. *et al.* (2023) 'Ketonemia variability through menstrual cycle in patients undergoing classic ketogenic diet', *Frontiers in Nutrition*, 10. Available at: <https://www.frontiersin.org/articles/10.3389/fnut.2023.1188055>.

Neurology

1. Alam, S., Westmark, C.J. and McCullagh, E.A. (2023) 'Diet in treatment of autism spectrum disorders', *Frontiers in Neuroscience*, 16, p. 1031016. Available at: <https://doi.org/10.3389/fnins.2022.1031016>.
2. Bohnen, J.L.B. *et al.* (2023) 'Ketogenic-Mimicking Diet as a Therapeutic Modality for Bipolar Disorder: Biomechanistic Rationale and Protocol for a Pilot Clinical Trial', *Nutrients*, 15(13), p. 3068. Available at: <https://doi.org/10.3390/nu15133068>. (Protocol only - helpful background)
3. Juby, A.G., Cunnane, S.C. and Mager, D.R. (2023) 'Refueling the post COVID-19 brain: potential role of ketogenic medium chain triglyceride supplementation: an hypothesis', *Frontiers in Nutrition*, 10, p. 1126534. Available at: <https://doi.org/10.3389/fnut.2023.1126534>.
4. Kong, D. *et al.* (2023) 'Ketogenic diet: a potential adjunctive treatment for substance use disorders', *Frontiers in Nutrition*, 10. Available at: <https://www.frontiersin.org/articles/10.3389/fnut.2023.1191903>.
5. Paibool, W. *et al.* (2023) 'Modified Atkins diet in children with epilepsy with eyelid myoclonia (Jeavons syndrome)', *Epilepsy & Behavior: E&B*, 145, p. 109347. Available at: <https://doi.org/10.1016/j.yebeh.2023.109347>.
6. Tereshko, Y. *et al.* (2023) '2:1 ketogenic diet and low-glycemic-index diet for the treatment of chronic and episodic migraine: a single-center real-life retrospective study', *The Journal of Headache and Pain*, 24(1), p. 95. Available at: <https://doi.org/10.1186/s10194-023-01635-9>.
7. Wetmore, E. *et al.* (2023) 'Ketogenic diet in relapsing multiple sclerosis: Patient perceptions, post-trial diet adherence & outcomes', *Clinical Nutrition*, 42(8), pp. 1427–1435. Available at: <https://doi.org/10.1016/j.clnu.2023.06.029>.

Case studies

1. Chand, P. *et al.* (2023) 'Early Infantile Epileptic Encephalopathy in asparagine-linked glycosylation thirteen (ALG13) gene defect and dramatic response with Ketogenic diet', *Journal of the Pakistan Medical Association*, 73(7), pp. 1521–1523. Available at: <https://doi.org/10.47391/JPMA.6750>.
2. Simon, D. *et al.* (2023) 'Food for Thought: Remission of Perianal Pediatric Crohn's Disease on Specific Carbohydrate Diet Monotherapy', *JPGN Reports*, 4(3), p. e343. Available at: <https://doi.org/10.1097/PG9.0000000000000343>.

Preclinical studies showing promise

1. Lin, C. *et al.* (2023) 'Ketogenic diet and β -Hydroxybutyrate alleviate ischemic brain injury in mice via an IRAKM-dependent pathway', *European Journal of Pharmacology*, 955, p. 175933. Available at: <https://doi.org/10.1016/j.ejphar.2023.175933>. ABSTRACT
2. Sun, W. *et al.* (2023) 'Ketogenic diet attenuates neuroinflammation and induces conversion of M1 microglia to M2 in an EAE model of multiple sclerosis by regulating the NF- κ B/NLRP3 pathway and inhibiting HDAC3 and P2X7R activation', *Food & Function* [Preprint]. Available at: <https://doi.org/10.1039/D3FO00122A>. ABSTRACT
3. Xu, X. *et al.* (2023) 'Ketogenic diet inhibits neointimal hyperplasia by suppressing oxidative stress and inflammation', *Clinical and Experimental Hypertension*, 45(1), p. 2229538. Available at: <https://doi.org/10.1080/10641963.2023.2229538>.
4. Zayed, M. *et al.* (2023) 'Ketosis Prevents Abdominal Aortic Aneurysm Rupture Through C-C Chemokine Receptor Type 2 Downregulation and Enhanced MMP Balance', *Research Square*, p. rs.3.rs-3054767. Available at: <https://doi.org/10.21203/rs.3.rs-3054767/v1>. (preprint)
5. Zhang, W. *et al.* (2023) 'Neuroprotective effect of a medium-chain triglyceride ketogenic diet on MPTP-induced Parkinson's disease mice: a combination of transcriptomics and metabolomics in the substantia nigra and fecal microbiome', *Cell Death Discovery*, 9(1), pp. 1–15. Available at: <https://doi.org/10.1038/s41420-023-01549-0>.