

Research and science backed studies.

Ingredient	Description	Benefits	Clinical Research
B12 (methylcobalamin)	Bioavailable form of B12 used to metabolize carbs, proteins, and fats, which your body converts into energy.	Energy support	<p>Office of Dietary Supplements. (2021). Vitamin B12: Fact sheet for professionals. Retrieved from https://ods.od.nih.gov/factsheets/VitaminB12-HealthProfessional Accessed January 9, 2021.</p> <p>Wolffenbuttel, B. H. R., Wouters, H. J. C. M., Heiner-Fokkema, M. R., & van der Klaauw, M. M. (2019). The Many Faces of Cobalamin (Vitamin B12) Deficiency. Mayo Clin Proc Innov Qual Outcomes, 3(2), 200–214. doi: 10.1016/j.mayocpiqo.2019.03.002. PMCID: PMC6543499. PMID: 31193945. https://pubmed.ncbi.nlm.nih.gov/31193945</p> <p>Gupta, J. K., & Qureshi Shaiba, S. (2015). Potential Benefits of Methylcobalamin: A Review. Department of Pharmacology, GLA University Mathura, India. Unpublished manuscript. https://www.researchgate.net/profile/Jee_tendra-Gupta/publication/339412930_Potential_Benefits_of_Methylcobalamin_A_Review/links/5e4ff1bd458515072dafa8be/Potential-Benefits-of-Methylcobalamin-A-Review.pdf</p> <p>Lavriša, Ž., Hristov, H., Hribar, M., Žmitek, K., Kušar, A., Koroušić Seljak, B., Gregorič, M., Blaznik, U., Gregorič, N., Zaletel, K., Oblak, A., Osredkar, J., & Pravst, I. (2022). Dietary Intake and Status of Vitamin B12 in Slovenian Population. Nutrients, 14(2), 334. doi: 10.3390/nu14020334. PMCID: PMC8781642. PMID: 35057515. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8781642</p>
L-Methylfolate (B9)	Bioavailable form for folic acid, used to help with mental fatigue, irritability and boost energy.	Energy, weight loss, mental fatigue support	<p>Maugeri, A. (2020). The Effects of Dietary Interventions on DNA Methylation: Implications for Obesity Management. International Journal of Molecular Sciences, 21(22), 8670. doi: 10.3390/ijms21228670. https://www.mdpi.com/1422-0067/21/22/8670</p> <p>Pannia, E., Hammoud, R., Simonian, R., Arning, E., Ashcraft, P., Wakes, B., Bottiglieri, T., Pausova, Z., Kubant, R., &</p>

			<p>Anderson, G. H. (2020). [6S]-5-Methyltetrahydrofolic Acid and Folic Acid Pregnancy Diets Differentially Program Metabolic Phenotype and Hypothalamic Gene Expression of Wistar Rat Dams Post-Birth. <i>Nutrients</i>, 13(1), 48. https://doi.org/10.3390/nu13010048</p> <p>Papakostas, G. I., Shelton, R. C., Zajecka, J. M., Etemad, B., Rickels, K., Clain, A., Baer, L., Dalton, E. D., Sacco, G. R., Schoenfeld, D., Pencina, M., Meissner, A., Bottiglieri, T., Nelson, E., Mischoulon, D., Alpert, J. E., Barbee, J. G., Zisook, S., & Fava, M. (2012, December 1). L-Methylfolate as Adjunctive Therapy for SSRI-Resistant Major Depression: Results of Two Randomized, Double-Blind, Parallel-Sequential Trials. <i>American Journal of Psychiatry</i>. Advance online publication. https://doi.org/10.1176/appi.ajp.2012.1107114</p>
5'-pyridoxal phosphate (B6)	Bioavailable form of B6, used to help with nausea, headaches and energy production.	Energy, Nausea	<p>Institute of Medicine. Dietary reference intakes for thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, pantothenic acid, biotin, and choline. Washington, DC: <i>National Academy Press</i>, 1999.</p> <p>Ebbing M, Bønaa KH, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njølstad I, Nilsen DW, Refsum H, Tverdal A, Vollset SE. Combined analyses and extended follow-up of two randomized controlled homocysteine-lowering B-vitamin trials. <i>Journal of internal medicine</i>. 2010 Oct 1;268(4):367-82.</p> <p>Sharifzadeh F, Kashanian M, Koohpayehzadeh J, Rezaian F, Sheikhanzari N, Eshraghi N. A comparison between the effects of ginger, pyridoxine (vitamin B6) and placebo for the treatment of the first trimester nausea and vomiting of pregnancy (NVP). <i>The Journal of Maternal-Fetal & Neonatal Medicine</i>. 2018 Oct 2;31(19):2509-14.</p> <p>Matok, I., Clark, S., Caritis, S., Miodovnik, M., Umans, J. G., Hankins, G., Mattison, D. R., & Koren, C. (2014). Studying the antiemetic effect of vitamin B6 for morning sickness: Pyridoxine and pyridoxal are prodrugs. First published: 22 July 2014. https://accp1.onlinelibrary.wiley.com/doi/abs/10.1002/icph.369</p> <p>Parra, M., Stahl, S., & Hellmann, H. (2018).</p>

			<p>Vitamin B6 and Its Role in Cell Metabolism and Physiology. <i>Cells</i>, 7(7), 84. doi: 10.3390/cells7070084. PMCID: PMC6071262. PMID: 30037155. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6071262</p> <p>Tardy, A.-L., Pouteau, E., Marquez, D., Yilmaz, C., & Scholey, A. (2020). Vitamins and Minerals for Energy, Fatigue and Cognition: A Narrative Review of the Biochemical and Clinical Evidence. <i>Nutrients</i>, 12(1), 228. doi: 10.3390/nu12010228. PMCID: PMC7019700. PMID: 31963141 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7019700</p>
Thiamine (B1)	Is an important cofactor in glucose metabolism and helps the body cells convert carbohydrates into energy.	Energy support	<p>Huskisson, E., Maggini, S., & Ruf, M. (2007). The role of vitamins and minerals in energy metabolism and well-being. <i>The Journal of International Medical Research</i>, 35, 277-289.https://pubmed.ncbi.nlm.nih.gov/17593855/</p> <p>Depeint, F., Bruce, W. R., Shangari, N., Mehta, R., & O'Brien, P. J. (2006). Mitochondrial function and toxicity: Role of the B vitamin family on mitochondrial energy metabolism. <i>Chemico-Biological Interactions</i>, 163(1-2), 94-112. Doi: 10.1016/j.cbi.2006.04.014. PMID: 16765926. https://pubmed.ncbi.nlm.nih.gov/16765926/</p> <p>Nozaki S, Mizuma H, Tanaka M, Jin G, Tahara T, Mizuno K, Yamato M, Okuyama K, Eguchi A, Akimoto K, Kitayoshi T, Mochizuki-Oda N, Kataoka Y, Watanabe Y. Thiamine tetrahydrofurfuryl disulfide improves energy metabolism and physical performance during physical-fatigue loading in rats. <i>Nutr Res</i>. 2009 Dec;29(12):867-72. Doi: 10.1016/j.nutres.2009.10.007. PMID: 19963160. https://pubmed.ncbi.nlm.nih.gov/19963160/</p>
Chromium Picolinate	Works together with insulin produced by the pancreas to metabolize carbohydrates and aid	Energy support	<p>Yazaki, Y., Faridi, Z., Ma, Y., Ali, A., Northrup, V., Njike, V. Y., Liberti, L., & Katz, D. L. (2010). A Pilot Study of Chromium</p>

	food craving reduction.	<p>Picolinate for Weight Loss. <i>The Journal of Alternative and Complementary Medicine</i>, 16(3), 291-299. doi: 10.1089/acm.2009.0286. PMID: PMC5206698. PMID: 20192914. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC520668</p> <p>Anton, S. D., Morrison, C. D., Cefalu, W. T., Martin, C. K., Coulon, S., Geiselman, P., Han, H., White, C. L., & Williamson, D. A. (2008). Effects of chromium picolinate on food intake and satiety. <i>Diabetes Technology & Therapeutics</i>, 10(5), 405-412. doi: 10.1089/dia.2007.0292. PMID: 18715218. PMID: PMC2753428. https://pubmed.ncbi.nlm.nih.gov/18715218</p> <p>Vincent, J. B. (2003). The potential value and toxicity of chromium picolinate as a nutritional supplement, weight loss agent, and muscle development agent. <i>Sports Medicine</i>, 33(3), 213-230. doi: 10.2165/00007256-200333030-00004. https://pubmed.ncbi.nlm.nih.gov/12656641</p> <p>Tian, H., Guo, X., Wang, X., He, Z., Sun, R., Ge, S., & Zhang, Z. (2013). Chromium picolinate supplementation for overweight or obese adults. <i>Cochrane Database of Systematic Reviews</i>, 2013(11), CD010063. doi: 10.1002/14651858.CD010063.pub2. PMID: 24293292. PMID: PMC7433292. https://pubmed.ncbi.nlm.nih.gov/24293292</p> <p>Wilcox, G. (2005). Insulin and Insulin Resistance. <i>Clinical Biochemist Reviews</i>, 26(2), 19-39. PMID: 16278749. PMID: PMC1204764. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1204764</p> <p>Shinde, U. A., Sharma, G., Xu, Y. J., Dhalla, N. S., & Goyal, R. K. (2004). Insulin sensitizing action of chromium picolinate in various experimental models of diabetes mellitus. <i>Journal of Trace Elements in Medicine and Biology</i>, 18(1), 23-32. doi: 10.1016/j.jtemb.2004.03.002. PMID: 15487760. https://pubmed.ncbi.nlm.nih.gov/15487760/</p>
--	-------------------------	---

Coenzyme Q10 (Ubiquinone)	Helps improve exercise performance by supporting mitochondrial function, decreasing oxidative stress, and reducing fatigue.	Energy support	<p>Garrido-Maraver, J., Cordero, M. D., Oropesa-Avila, M., Vega, A. F., de la Mata, M., Pavon, A. D., Alcocer-Gomez, E., Calero, C. P., Paz, M. V., Alanis, M., de Lavera, I., Cotan, D., & Sanchez-Alcazar, J. A. (2014). Clinical applications of coenzyme Q10. <i>Frontiers in Bioscience (Landmark Ed)</i>, 19(4), 619-633. doi: 10.2741/4231. PMID: 24389208. https://pubmed.ncbi.nlm.nih.gov/24389208/</p> <p>Testai, L., Martelli, A., Flori, L., Cicero, A. F. G., & Colletti, A. (2021). Coenzyme Q10: Clinical Applications beyond Cardiovascular Diseases. <i>Nutrients</i>, 13(5), 1697. doi: 10.3390/nu13051697. PMID: 34067632; PMCID: PMC8156424 https://pubmed.ncbi.nlm.nih.gov/34067632/</p> <p>Sarmiento, A., Diaz-Castro, J., Pulido-Moran, M., Kajarabille, N., Guisado, R., & Ochoa, J. J. (2016). Coenzyme Q10 Supplementation and Exercise in Healthy Humans: A Systematic Review. <i>Current Drug Metabolism</i>, 17(4), 345-358. doi: 10.2174/1389200216666151103115654. PMID: 26526835. https://pubmed.ncbi.nlm.nih.gov/26526835/</p> <p>Díaz-Casado, M. E., Quiles, J. L., Barriocanal-Casado, E., González-García, P., Battino, M., López, L. C., & Varela-López, A. (2019). The Paradox of Coenzyme Q10 in Aging. <i>Nutrients</i>, 11(9), 2221. doi: 10.3390/nu11092221. PMID: 31540029; PMCID: PMC6770889. https://pubmed.ncbi.nlm.nih.gov/31540029/</p>
Magnesium Malate	Highly absorbable essential mineral used to support energy production, improve exercise performance, aid in healthy metabolism and supports bowel movement.	Constipation & Energy support	<p>Weiss, D., Brunk, D. K., & Goodman, D. A. (2018). Scottsdale Magnesium Study: Absorption, Cellular Uptake, and Clinical Effectiveness of a Timed-Release Magnesium Supplement in a Standard Adult Clinical Population. <i>Journal of the American College of Nutrition</i>, 37(4), 316-327. doi: 10.1080/07315724.2017.139868. https://www.tandfonline.com/doi/full/10.1080/07315724.2017.139868</p> <p>Volpe, S. L. (2015). Magnesium and the Athlete. <i>Current Sports Medicine Reports</i>, 14(4), 279-283. doi: 10.1249/JSMR.0000000000000178 https://journals.lww.com/acsm-csmr/fulltext/2015/07000/magnesium_a</p>

			<p>nd_the_athlete.aspx</p> <p>D., Castenmiller, J., De Henauw, S., Hirsch-Ernst, K. I., Kearney, J., Knutsen, H. K., Maciuk, A., Mangelsdorf, I., McArdle, H. J., Naska, A., Pelaez, C., Pentieva, K., Siani, A., Thies, F., Tsabouri, S., Vinceti, M., Dean, T., Engel, K. H., Heinonen, M., Marchelli, R., Neuhäuser-Berthold, M., Poulsen, M., Pötting, A., Sanz, Y., Schlatter, J. R., Germini, A., & van Loveren, H. (2018). Magnesium citrate malate as a source of magnesium added for nutritional purposes to food supplements. EFSA Journal, 16(12), e05484. Doi: https://pubmed.ncbi.nlm.nih.gov/32625777/</p> <p>Newhouse, I. J., & Finstad, E. W. (2000). The Effects of Magnesium Supplementation on Exercise Performance. Clinical Journal of Sport Medicine, 10(3), 195-200.</p> <p>https://journals.lww.com/cjsportsmed/Abstract/2000/07000/The_Effects_of_Magnesium_Supplementation_on.aspx</p>
Himalayan Pink Salt Powder (Sodium Chloride)	Pharmaceutical grade sodium electrolyte used to replenish lost electrolytes, while detoxing the body and kidneys.	Electrolyte for energy & fatigue support	<p>EFSA Panel on Nutrition, Novel Foods and Food Allergens (NDA), Turck D, Castenmiller J, de Henauw S, Hirsch-Ernst KI, Kearney J, Knutsen HK, Maciuk A, Mangelsdorf I, McArdle HJ, Pelaez C, Pentieva K, Siani A, Thies F, Tsabouri S, Vinceti M, Aggett P, Fairweather-Tait S, Martin A, Przyrembel H, de Sesmaisons-Lecarré A, Naska A. Dietary reference values for chloride. EFSA J. 2019 Sep 4;17(9):e05779.</p> <p>Institute of Medicine. 2006. <i>Dietary Reference Intakes: The Essential Guide to Nutrient Requirements</i>. Washington, DC: The National Academies Press. Accessed 9/5/2022.</p> <p>Merson, S. (2009). Salt - The Pros and the Cons. Foods Matter, 8-9. https://www.proquest.com/openview/9b0c446d687824519c909d6035db21e/l?pq-origsite=gscholar&cbl=39578</p>
Potassium Citrate	Highly bioavailable form of potassium to help with electrolyte balance	Electrolyte for energy & fatigue support	<p>National Academy of Medicine. Dietary Reference Intakes for Sodium and Potassium. Washington (DC): National Academies Press (US); 2019 Mar.</p> <p>National Institutes of Health; Office of Dietary Supplements. Potassium: Fact Sheet for Health Professionals. https://ods.od.nih.gov/factsheets/Potassi</p>

			<p>um-HealthProfessional/. Accessed 5/20/2019.</p> <p>Dietary Guidelines for Americans Scientific Advisory Committee. Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2010, to the Secretary of Agriculture and the Secretary of Health and Human Services. 2010.</p> <p>Yang Q, Liu T, Kuklina EV, Flanders WD, Hong Y, Gillespie C, Chang MH, Gwinn M, Dowling N, Khoury MJ, Hu FB. Sodium and potassium intake and mortality among US adults: prospective data from the Third National Health and Nutrition Examination Survey. <i>Archives of internal medicine</i>. 2011 Jul 11;171(13):1183-91.</p> <p>Sjøgaard, G. (1996, March). Potassium and fatigue: the pros and cons. https://onlinelibrary.wiley.com/doi/abs/10.1046/j.1365-201X.1996.207000.x</p> <p>Lindinger, M. I., & Cairns, S. P. (2021, January 4). Regulation of muscle potassium: exercise performance, fatigue and health implications. https://link.springer.com/article/10.1007/s00421-020-04546-8</p> <p>Mohr, M., Nordsborg, N., Nielsen, J. J., Pedersen, L. D., Fischer, C., Krstrup, P., & Bangsbo, J. (2004, March 27). Potassium kinetics in human muscle interstitium during repeated intense exercise in relation to fatigue. https://link.springer.com/article/10.1007/s00424-004-1257-6</p> <p>Demigné, C., Sabboh, H., Rémésy, C., & Meneton, P. (2004). Protective Effects of High Dietary Potassium: Nutritional and Metabolic Aspects. <i>The Journal of Nutrition</i>, 134(11), 2903-2906. Doi: 10.1093/jn/134.11.2903. https://www.sciencedirect.com/science/article/pii/S0022316623028626?via%3Dihub</p>
Organic Ginger Root Extract	Biologically active ingredient zingiber officinale is highly effective for gastrointestinal disorders, such as dyspepsia, abdominal pain, and nausea.	Nausea, Dyspepsia, Abdominal Pain support	Gumbarewicz, E., Jarząb, A., Stepulak, A., & Kukula-Koch, W. (2022). Zingiber officinale Rosc. In the Treatment of Metabolic Syndrome Disorders—A Review of In Vivo Studies. <i>International Journal of Molecular Sciences</i> , 23(24),

			<p>15545. Doi: 10.3390/ijms232415545. PMID: 36555184. PMCID: PMC9779757 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9779757/</p> <p>Hu, M. L., Rayner, C. K., Wu, K. L., Chuah, S. K., Tai, W. C., Chou, Y. P., Chiu, Y. C., Chiu, K. W., & Hu, T. H. (2011). Effect of ginger on gastric motility and symptoms of functional dyspepsia. <i>World Journal of Gastroenterology</i>, 17(1), 105-110. Doi: 10.3748/wjg.v17.i1.105. PMID: 21218090. PMCID: PMC3016669 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3016669/</p> <p>Rondanelli, M., Fossari, F., Vecchio, V., Gasparri, C., Peroni, G., Spadaccini, D., Riva, A., Petrangolini, G., Iannello, G., Nichetti, M., Infantino, V., & Perna, S. (2020). Clinical trials on pain lowering effect of ginger: <i>Phytotherapy Research</i>, 34(11), 2843-2856. Doi: 10.1002/ptr.6730. PMID: 32436242. PMCID: PMC7754412. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7754412/</p> <p>Nikkhah Bodagh, M., Maleki, I., & Hekmatdoost, A. (2019). Ginger in gastrointestinal disorders: A systematic review of clinical trials. <i>Food Science & Nutrition</i>, 7(1), 96-108. Doi: 10.1002/fsn3.807. PMID: 30680163. PMCID: PMC6341159. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6341159/</p>
Bromelain	Key ingredient found in pineapples used to improve digestion and aid in proper bowel function.	Digestion and bowel function support	<p>Hikisz, P., & Bernasinska-Slomczewska, J. (2021). Beneficial Properties of Bromelain. <i>Nutrients</i>, 13(12), 4313. Doi: 10.3390/nu13124313. PMID: 34959865. PMCID: PMC8709142. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8709142/</p> <p>Chakraborty, A. J., Mitra, S., Tallei, T. E., Tareq, A. M., Nainu, F., Ciccia, D., Dhamma, K., Emran, T. B., Simal-Gandara, J., & Capasso, R. (2021). Bromelain a potential bioactive compound: A comprehensive overview from a pharmacological perspective. <i>Life</i>, 11(4), 317. https://doi.org/10.3390/life11040317</p> <p>Pavan, R., Jain, S., Shraddha, & Kumar, A. (2012). Properties and therapeutic</p>

			application of bromelain: A review. Journal of Biotechnology, 150(1), 16-23. https://doi.org/10.1016/j.biotec.2010.12.011
Papain Enzyme	Derived from papayas, a natural digestive enzyme that helps break down the food you eat so that you can properly digest and absorb the nutrients from that food. They also help relieve symptoms such as bloating, constipation, and gas.	Digestion, constipation and gut microbiome support	<p>Sharma, A., Sharma, R., Sharma, M., Kumar, M., Barbhui, M. D., Lorenzo, J. M., Sharma, S., Samota, M. K., Atanassova, M., Caruso, G., Naushad, M., & Radha. (2022). <i>Carica papaya L. Leaves: Deciphering Its Antioxidant Bioactives, Biological Activities, Innovative Products, and Safety Aspects</i>. BioMed Research International, 2022, Article ID 2451733. https://doi.org/10.1155/2022/2451733</p> <p>Roxas, M. (2008). The Role of Enzyme Supplementation in Digestive Disorders. Alternative Medicine Review, 13(4), 307-314.</p> <p>Martin, S. H. C. (1885). Papaïn-Digestion. Journal of Physiology, 5(4-6), 213-230. Doi: 10.1113/jphysiol.1885.sp000165 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1485166/</p> <p>Kostiuchenko, O., Kravchenko, N., Markus, J., Burleigh, S., Fedkiv, O., Cao, L., Letasiova, S., Skibo, G., Fåk Hållénus, F., & Prykhodko, O. (2022). Effects of Proteases from Pineapple and Papaya on Protein Digestive Capacity and Gut Microbiota in Healthy C57BL/6 Mice and Dose-Manner Response on Mucosal Permeability in Human Reconstructed Intestinal 3D Tissue Model. Metabolites, 12(11), 1027. Doi: 10.3390/metabo12111027 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9696696/</p>
Lemon Balm (<i>Melissa officinalis</i>) Extract	Used as a gastro-protective herb that aids to relax and soothe spasms thanks to its antispasmodic effects, plus assists with discomfort from indigestion	Antispasmodic effects, GI discomfort, indigestion support	<p>Miraj, S., Rafieian-Kopaei, R., & Kiani, S. (2017). <i>Melissa officinalis L: A Review Study With an Antioxidant Prospective</i>. Journal of Evidence-Based Complementary & Alternative Medicine, 22(3), 385-394. Doi: 10.1177/2156587216663433https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5871149/</p> <p>Aubert, P., Guinobert, I., Blondeau, C., Bardot, V., Ripoche, I., Chalard, P., & Neunlist, M. (2019). Basal and Spasmolytic Effects of a Hydroethanolic Leaf Extract of <i>Melissa officinalis</i> L. on Intestinal Motility: An Ex Vivo Study. Medicinal Food, 22(7), 653-662. Doi: </p>

			<p>10.1089/jmf.2018.0154https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6653806/</p> <p>Abdellatif, F., Begaa, S., Messaoudi, M., Benarfa, A., Ouakouak, H., Hassani, A., Sawicka, B., & Simal Gandara, J. (2023). HPLC-DAD Analysis, Antimicrobial and Antioxidant Properties of Aromatic Herb <i>Melissa officinalis</i> L., Aerial Parts Extracts. <i>Food Analytical Methods</i>, 16(1), 45-54. Doi: 10.1007/s12161-022-02385-1https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9397176/</p>
Peppermint (<i>mentha piperita</i>) Leaf Powder	<p>Natural herb that may relieve digestive symptoms, such as gas, bloating, and indigestion.</p>	<p>Indigestion and gas support</p>	<p>Chumpitazi, B. P., Kearns, G., & Shulman, R. J. (2018). Review article: The physiologic effects and safety of Peppermint Oil and its efficacy in irritable bowel syndrome and other functional disorders. <i>Alimentary Pharmacology & Therapeutics</i>, 47(6), 738-752. Doi: 10.1111/apt.14519.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5814329/</p> <p>Fifi, A. C., Axelrod, C. H., Chakraborty, P., & Saps, M. (2018). Herbs and spices in the treatment of functional gastrointestinal disorders: A review of clinical trials. <i>Nutrients</i>, 10(11), 1715. Doi: 10.3390/nu10111715.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6266883/</p> <p>Mahboubi, M. (2021). <i>Mentha spicata</i> L. essential oil, phytochemistry and its effectiveness in flatulence. <i>Journal of Traditional and Complementary Medicine</i>, 11(2), 75–81. Doi: 10.1016/j.jtcme.2017.08.011.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7936090/</p> <p>Chiaroni, G., Pesce, M., Fantin, A., & Sarnelli, G. (2018). Complementary and alternative treatment in functional dyspepsia. <i>United European Gastroenterology Journal</i>, 6(1), 5–12. Doi: 10.1177/2050640617724061.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5802680/</p> <p>Jafarimanesh, H., Akbari, M., Hoseinian, R., Zarei, M., & Harorani, M. (2020). The effect of peppermint (<i>Mentha piperita</i>) extract on the severity of nausea, vomiting, and anorexia in patients with breast cancer undergoing chemotherapy: A randomized controlled trial. <i>Integrative Cancer Therapies</i>, 19, 1534735420967084. Doi:</p>

			<p>10.1177/1534735420967084. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7605047/</p>
Organic Licorice Extract (root)	Potent antioxidant that supports acid reflux.	<p>Acid reflux, Peptic Ulcer Disease, Indigestion support</p>	<p>Di Pierro, F., Gatti, M., Rapacioli, G., & Ivaldi, L. (2013). Outcomes in patients with nonerosive reflux disease treated with a proton pump inhibitor and alginic acid ± glycyrrhetic acid and anthocyanosides. <i>Clinical and Experimental Gastroenterology</i>, (6), 27-33. doi: 10.2147/CEG.S42512. PMID: 23569394. PMCID: PMC3615700 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3615700</p> <p>Raveendra, K. R., Jayachandra, S., Srinivasa, V., Sushma, K. R., Allan, J. J., Goudar, K. S., Shivaprasad, H. N., Venkateshwarlu, K., Geetharani, P., Sushma, G., & Agarwal, A. (2011). An Extract of Glycyrrhiza glabra (GutGard) Alleviates Symptoms of Functional Dyspepsia: A Randomized, Double-Blind, Placebo-Controlled Study. <i>Evidence-Based Complementary and Alternative Medicine</i>, 2012, 216970. doi: 10.1155/2012/216970. PMID: 21747893. PMCID: PMC3123991. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3123991</p> <p>Setright, R. (2017, June 1). Prevention of symptoms of gastric irritation (GERD) using two herbal formulas: An observational study. https://search.informit.org/doi/10.3316/IN_FORMAT.950298610899394</p> <p>Hajiaghamohammadi, A. A., Zargar, A., Oveisi, S., Samimi, R., & Reisian, S. (2016). To evaluate the effect of adding licorice to the standard treatment regimen of Helicobacter pylori. <i>Brazilian Journal of Infectious Diseases</i>, 20(6), 534-538. doi: 10.1016/j.bjid.2016.07.015 https://pubmed.ncbi.nlm.nih.gov/27614124</p>

Lactobacillus gasseri	<p>Probiotic that plays a clinically validated role in abdomen weight reduction and supporting proper gut health.</p>	<p>Weight loss and gut health support</p>	<p>Jung, S.-P., Lee, K.-M., Kang, J.-H., Yun, S.-I., Park, H.-O., Moon, Y., & Kim, J.-Y. (2013). Effect of Lactobacillus gasseri BNRI7 on Overweight and Obese Adults: A Randomized, Double-Blind Clinical Trial. Korean Journal of Family Medicine, 34(2), 80–89. Doi: 10.4082/kjfm.2013.34.2.80. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3611107/</p> <p>Ogawa, A., Kadooka, Y., Kato, K., Shirouchi, B., & Sato, M. (2014). Lactobacillus gasseri SBT2055 reduces postprandial and fasting serum non-esterified fatty acid levels in Japanese hypertriacylglycerolemic subjects. Lipids in Health and Disease, 13, 36. Doi: 10.1186/1476-511X-13-36. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3944925/</p> <p>Álvarez-Arraño, V., & Martín-Peláez, S. (2021). Effects of Probiotics and Synbiotics on Weight Loss in Subjects with Overweight or Obesity: A Systematic Review. Nutrients, 13(10), 3627. Doi: 10.3390/nu13103627. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8540110/</p> <p>Drissi, F., Merhej, V., Angelakis, E., El Kaoutari, A., Carrière, F., Henrissat, B., & Raoult, D. (2014). Comparative genomics analysis of Lactobacillus species associated with weight gain or weight protection. Nutrition & Diabetes, 4(2), e109. Doi: 10.1038/nutd.2014.6. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3940830/</p>
------------------------------	---	---	--

Clinical Nutrition & Supplements when using Glucagon-Like Peptide-1(GLP-1) Agonists for Weight Loss

Clinical White Paper - References:

1. *Adult Obesity / Obesity Prevention Source / Harvard T.H. Chan School of Public Health.* (n.d.). Harvard T.H. Chan School of Public Health. Retrieved June 15, 2023, from <https://www.hsph.harvard.edu/obesity-prevention-source/obesity-trends-original/obesity-rates-worldwide/>
2. *The \$76 Billion Diet Industry Asks: What to Do About Ozempic?* (2023, April 10). The Wall Street Journal. Retrieved June 15, 2023, from <https://www.wsj.com/articles/ozempic-wegovy-mounjaro-weight-loss-industry-89419ecb>
3. *Why Diet Drug Phen/Fen Damaged The Heart.* (2000, December 15). ScienceDaily. Retrieved June 15, 2023, from <https://www.sciencedaily.com/releases/2000/12/001214081821.htm>
4. Nauck MA. Glucagon-like peptide 1 (GLP-1): a potent gut hormone with a possible therapeutic perspective. *Acta Diabetol.* 1998 Oct;35(3):117-29. doi: 10.1007/s005920050116. PMID: 9840447.
5. *Wegovy® STEP 1 Clinical Trial Results / Wegovy® (semaglutide) Injection 2.4 mg.* (n.d.). novoMEDLINK. Retrieved June 15, 2023, from <https://www.novomedlink.com/obesity/products/treatments/wegovy/efficacy-safety/clinical-trial-1-results.html>
- 6 Singh G, Krauthamer M, Bjalme-Evans M. Wegovy (semaglutide): a new weight loss drug for chronic weight management. *J Investig Med.* 2022 Jan;70(1):5-13. doi: 10.1136/jim-2021-001952. Epub 2021 Oct 27. PMID: 34706925; PMCID: PMC8717485.
- 7 Ahrén B, Atkin SL, Charpentier G, Warren ML, Wilding JPH, Birch S, Holst AG, Leiter LA. Semaglutide induces weight loss in subjects with type 2 diabetes regardless of baseline BMI or gastrointestinal adverse events in the SUSTAIN 1 to 5 trials. *Diabetes Obes Metab.* 2018 Sep;20(9):2210-2219. doi: 10.1111/dom.13353. Epub 2018 Jun 12. PMID: 29766634; PMCID: PMC6099440.
8. Chavda VP, Ajabiya J, Teli D, Bojarska J, Apostolopoulos V. Tirzepatide, a New Era of Dual-Targeted Treatment for Diabetes and Obesity: A Mini-Review. *Molecules.* 2022 Jul 5;27(13):4315. doi: 10.3390/molecules27134315. PMID: 35807558; PMCID: PMC9268041.
9. Zhang Q, Delessa CT, Augustin R, Bakhti M, Colldén G, Drucker DJ, Feuchtinger A, Caceres CG, Grandl G, Harger A, Herzig S, Hofmann S, Holleman CL, Jastroch M, Keipert S, Kleinert M, Knerr PJ, Kulaj K, Legutko B, Lickert H, Liu X, Luippold G, Lutter D, Malogajski E, Medina MT, Mowery SA, Blutke A, Perez-Tilve D, Salinno C, Sehrer L, DiMarchi RD, Tschoöp MH, Stemmer K, Finan B, Wolfrum C, Müller TD. The glucose-dependent insulinotropic polypeptide (GIP) regulates body weight and food intake via CNS-GIPR signaling. *Cell Metab.* 2021 Apr 6;33(4):833-844.e5. doi: 10.1016/j.cmet.2021.01.015. Epub 2021 Feb 10. PMID: 33571454; PMCID: PMC8035082.

10. *A Study of Tirzepatide (LY3298176) in Participants With Obesity or Overweight - Full Text View.* (n.d.). ClinicalTrials.gov. Retrieved June 15, 2023, from <https://www.clinicaltrials.gov/ct2/show/NCT04184622>.
11. *FDA Approves Novel, Dual-Targeted Treatment for Type 2 Diabetes.* (2022, May 13). FDA. Retrieved June 15, 2023, from <https://www.fda.gov/news-events/press-announcements/fda-approves-novel-dual-targeted-treatment-type-2-diabetes>.
12. Frias M.D., J. P. (2021, August 5). *Tirzepatide versus Semaglutide Once Weekly in Patients with Type 2 Diabetes.* The new england journal of medicine.
<https://www.nejm.org/doi/full/10.1056/NEJMoa2107519#:~:text=Nausea%20was%20reported%20in%2017,to%209%25%20and%205%25>.
13. (2023, May 9).. - YouTube. Retrieved June 15, 2023, from
https://www.novomedlink.com/semaglutide.html?utm_source=google&utm_medium=cpc&utm_term=semaglutide&utm_campaign=&mkwid=s-dc_pcrid_656719713103_pkw_semaglutide_pmt_p_slid_product_&pgrid=146382151817&ptaid=kwd-305414023156&gclid=CjwKCAjwyqWkBhBMEiwAp2yUFiv
14. *Tirzepatide (Subcutaneous Route) Side Effects.* (2023, May 1). Mayo Clinic. Retrieved June 15, 2023, from <https://www.mayoclinic.org/drugs-supplements/tirzepatide-subcutaneous-route/side-effects/drg-20534045>
15. Hutchinson, P. (n.d.). *Once-Weekly Semaglutide in Adults with Overweight or Obesity / NEJM.* New England Journal of Medicine. Retrieved June 15, 2023, from https://www.nejm.org/doi/10.1056/NEJMoa2032183?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed
16. Allué, J. (n.d.). *The Effectiveness of Ginger in the Prevention of Nausea and Vomiting during Pregnancy and Chemotherapy.* NCBI. Retrieved June 15, 2023, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4818021/>
17. Mietlicki-Baase EG, Liberini CG, Workinger JL, Bonaccorso RL, Borner T, Reiner DJ, Koch-Laskowski K, McGrath LE, Lhamo R, Stein LM, De Jonghe BC, Holz GG, Roth CL, Doyle RP, Hayes MR. A vitamin B12 conjugate of exendin-4 improves glucose tolerance without associated nausea or hypophagia in rodents. *Diabetes Obes Metab.* 2018 May;20(5):1223-1234. doi: 10.1111/dom.13222. Epub 2018 Feb 20. PMID: 29327400; PMCID: PMC5899935.
18. Borner T, Shaulson ED, Tinsley IC, Stein LM, Horn CC, Hayes MR, Doyle RP, De Jonghe BC. A second-generation glucagon-like peptide-1 receptor agonist mitigates vomiting and anorexia while retaining glucoregulatory potency in lean diabetic and emetic mammalian models. *Diabetes Obes Metab.* 2020 Oct;22(10):1729-1741. doi:

10.1111/dom.14089. Epub 2020 Jun 25. PMID: 32410372; PMCID: PMC7927944.

19. Zheng Y, Cantley LC. Toward a better understanding of folate metabolism in health and disease. *J Exp Med.* 2019 Feb 4;216(2):253-266. doi: 10.1084/jem.20181965. Epub 2018 Dec 26. PMID: 30587505; PMCID: PMC6363433.

20. Hoepner CT, McIntyre RS, Papakostas GI. Impact of Supplementation and Nutritional Interventions on Pathogenic Processes of Mood Disorders: A Review of the Evidence. *Nutrients.* 2021 Feb 26;13(3):767. doi: 10.3390/nu13030767. PMID: 33652997; PMCID: PMC7996954.

21. Parra M, Stahl S, Hellmann H. Vitamin B₆ and Its Role in Cell Metabolism and Physiology. *Cells.* 2018 Jul 22;7(7):84. doi: 10.3390/cells7070084. PMID: 30037155; PMCID: PMC6071262.

22. Hsu CC, Cheng CH, Hsu CL, Lee WJ, Huang SC, Huang YC. Role of vitamin B6 status on antioxidant defenses, glutathione, and related enzyme activities in mice with homocysteine-induced oxidative stress. *Food Nutr Res.* 2015 Apr 29;59:25702. doi: 10.3402/fnr.v59.25702. PMID: 25933612; PMCID: PMC4417078.

23. Sahakian V, Rouse D, Sipes S, Rose N, Niebyl J. Vitamin B6 is effective therapy for nausea and vomiting of pregnancy: a randomized, double-blind placebo-controlled study. *Obstet Gynecol.* 1991 Jul;78(1):33-6. PMID: 2047064.

24. Kerns JC, Arundel C, Chawla LS. Thiamin deficiency in people with obesity. *Adv Nutr.* 2015 Mar 13;6(2):147-53. doi: 10.3945/an.114.007526. PMID: 25770253; PMCID: PMC4352173.

25. Mee L, Nabokina SM, Sekar VT, Subramanian VS, Maedler K, Said HM. Pancreatic beta cells and islets take up thiamin by a regulated carrier-mediated process: studies using mice and human pancreatic preparations. *Am J Physiol Gastrointest Liver Physiol.* 2009 Jul;297(1):G197-206. doi: 10.1152/ajpgi.00092.2009. Epub 2009 May 7. PMID: 19423748; PMCID: PMC2711754.

26. Page GL, Laight D, Cummings MH. Thiamine deficiency in diabetes mellitus and the impact of thiamine replacement on glucose metabolism and vascular disease. *Int J Clin Pract.* 2011 Jun;65(6):684-90. doi: 10.1111/j.1742-1241.2011.02680.x. PMID: 21564442.

27. Li H, Xu H, Wen W, Wu L, Xu M, Luo J. Thiamine Deficiency Causes Long-Lasting Neurobehavioral Deficits in Mice. *Brain Sci.* 2020 Aug 17;10(8):565. doi: 10.3390/brainsci10080565. PMID: 32824629; PMCID: PMC7464042.

28. Dinicolantonio JJ, Lavie CJ, Niazi AK, O'Keefe JH, Hu T. Effects of thiamine on cardiac function in patients with systolic heart failure: systematic review and metaanalysis of randomized, double-blind, placebo-controlled trials.

Ochsner J. 2013 Winter;13(4):495-9. PMID: 24357996; PMCID: PMC3865826.

29. Suksomboon N, Poolsup N, Yuwanakorn A. Systematic review and meta-analysis of the efficacy and safety of chromium supplementation in diabetes. *J Clin Pharm Ther*. 2014 Jun;39(3):292-306. doi: 10.1111/jcpt.12147. Epub 2014 Mar 17. PMID: 24635480.

30. Pei D, Hsieh CH, Hung YJ, Li JC, Lee CH, Kuo SW. The influence of chromium chloride-containing milk to glycemic control of patients with type 2 diabetes mellitus: a randomized, double-blind, placebo-controlled trial. *Metabolism*. 2006 Jul;55(7):923-7. doi: 10.1016/j.metabol.2006.02.021. PMID: 16784965.

31. Cefalu WT, Rood J, Pinsonat P, Qin J, Sereda O, Levitan L, Anderson RA, Zhang XH, Martin JM, Martin CK, Wang ZQ, Newcomer B. Characterization of the metabolic and physiologic response to chromium supplementation in subjects with type 2 diabetes mellitus. *Metabolism*. 2010 May;59(5):755-62. doi: 10.1016/j.metabol.2009.09.023. Epub 2009 Dec 22. PMID: 20022616; PMCID: PMC4020630.

32. Chromium | The Nutrition Source | Harvard T.H. Chan School of Public Health. (n.d.). Harvard T.H. Chan School of Public Health. Retrieved June 15, 2023, from <https://www.hsph.harvard.edu/nutritionsource/chromium/>

33. Anton SD, Morrison CD, Cefalu WT, Martin CK, Coulon S, Geiselman P, Han H, White CL, Williamson DA. Effects of chromium picolinate on food intake and satiety. *Diabetes Technol Ther*. 2008 Oct;10(5):405-12. doi: 10.1089/dia.2007.0292. PMID: 18715218; PMCID: PMC2753428.

34. Zozina VI, Covantev S, Goroshko OA, Krasnykh LM, Kukes VG. Coenzyme Q10 in Cardiovascular and Metabolic Diseases: Current State of the Problem. *Curr Cardiol Rev*. 2018;14(3):164-174. doi: 10.2174/1573403X14666180416115428. PMID: 29663894; PMCID: PMC6131403.

35. Drobnić F, Lizarraga MA, Caballero-García A, Cordova A. Coenzyme Q10 Supplementation and Its Impact on Exercise and Sport Performance in Humans: A Recovery or a Performance-Enhancing Molecule? *Nutrients*. 2022 Apr 26;14(9):1811. doi: 10.3390/nu14091811. PMID: 35565783; PMCID: PMC9104583.

36. Jorat MV, Tabrizi R, Mirhosseini N, Lankarani KB, Akbari M, Heydari ST, Mottaghi R, Asemi Z. The effects of coenzyme Q10 supplementation on lipid profiles among patients with coronary artery disease: a systematic review and meta-analysis of randomized controlled trials. *Lipids Health Dis*. 2018 Oct 9;17(1):230. doi: 10.1186/s12944-018-0876-4. PMID: 30296936; PMCID: PMC6176512.

37. Zhao X, Feng X, Ye N, Wei P, Zhang Z, Lu W. Protective effects and mechanism of coenzyme Q10 and vitamin C on

doxorubicin-induced gastric mucosal injury and effects of intestinal flora. Korean J Physiol Pharmacol. 2021 Jul 1;25(4):261-272. doi: 10.4196/kjpp.2021.25.4.261. PMID: 34187945; PMCID: PMC8255120.

38. Farsi F, Ebrahimi-Daryani N, Barati M, Janani L, Karimi MY, Akbari A, Irandoost P, Mesri Alamdari N, Agah S, Vafa M. Effects of coenzyme Q10 on health-related quality of life, clinical disease activity and blood pressure in patients with mild to moderate ulcerative colitis: a randomized clinical trial. Med J Islam Repub Iran. 2021 Jan 6;35:3. doi: 10.47176/mjiri.35.3. PMID: 33996654; PMCID: PMC8111632.

39. *Magnesium - Health Professional Fact Sheet*. (2022, June 2). NIH Office of Dietary Supplements. Retrieved June 15, 2023, from <https://ods.od.nih.gov/factsheets/Magnesium-HealthProfessional/#en1>

40. Eby GA, Eby KL. Rapid recovery from major depression using magnesium treatment. Med Hypotheses. 2006;67(2):362-70. doi: 10.1016/j.mehy.2006.01.047. Epub 2006 Mar 20. PMID: 16542786.

41. Bagis S, Karabiber M, As I, Tamer L, Erdogan C, Atalay A. Is magnesium citrate treatment effective on pain, clinical parameters and functional status in patients with fibromyalgia? Rheumatol Int. 2013 Jan;33(1):167-72. doi: 10.1007/s00296-011-2334-8. Epub 2012 Jan 22. PMID: 22271372.

42. Mori H, Tack J, Suzuki H. Magnesium Oxide in Constipation. Nutrients. 2021 Jan 28;13(2):421. doi: 10.3390/nu13020421. PMID: 33525523; PMCID: PMC7911806.

43. Guerrera MP, Volpe SL, Mao JJ. Therapeutic uses of magnesium. Am Fam Physician. 2009 Jul 15;80(2):157-62. PMID: 19621856.

44. Dong JY, Xun P, He K, Qin LQ. Magnesium intake and risk of type 2 diabetes: meta-analysis of prospective cohort studies. Diabetes Care. 2011 Sep;34(9):2116-22. doi: 10.2337/dc11-0518. PMID: 21868780; PMCID: PMC3161260.

45. Marcin, J. (n.d.). *What Is Sodium Chloride and How Is It Used?* Healthline. Retrieved June 15, 2023, from <https://www.healthline.com/health/sodium-chloride>

46. Ames RP. The effect of sodium supplementation on glucose tolerance and insulin concentrations in patients with hypertension and diabetes mellitus. Am J Hypertens. 2001 Jul;14(7 Pt 1):653-9. doi: 10.1016/s0895-7061(01)01310-3. PMID: 11465650.

47. Chatterjee R, Biggs ML, de Boer IH, et al. [Potassium and glucose measures in older adults: the Cardiovascular Health Study](#). J Gerontol A Biol Sci Med Sci. 2015;70(2):255-261. doi:10.1093/gerona/glu071

48. Tal B, Sack J, Yaron M, Shefer G, Buch A, Ben Haim L, Marcus Y, Shenkerman G, Sofer Y, Shefer L, Margaliot M, Stern N. Increment in Dietary Potassium Predicts Weight Loss in the Treatment of the Metabolic Syndrome. *Nutrients*. 2019 Jun 2;11(6):1256. doi: 10.3390/nu11061256. PMID: 31159504; PMCID: PMC6627830.
49. Nikkhah Bodagh M, Maleki I, Hekmatdoost A. Ginger in gastrointestinal disorders: A systematic review of clinical trials. *Food Sci Nutr*. 2018 Nov 5;7(1):96-108. doi: 10.1002/fsn3.807. PMID: 30680163; PMCID: PMC6341159.
50. Salaramoli S, Mehri S, Yarmohammadi F, Hashemy SI, Hosseinzadeh H. The effects of ginger and its constituents in the prevention of metabolic syndrome: A review. *Iran J Basic Med Sci*. 2022 Jun;25(6):664-674. doi: 10.22038/IJBSMS.2022.59627.13231. PMID: 35949312; PMCID: PMC9320212.
51. Li Y, Tran VH, Kota BP, Nammi S, Duke CC, Roufogalis BD. Preventative effect of Zingiber officinale on insulin resistance in a high-fat high-carbohydrate diet-fed rat model and its mechanism of action. *Basic Clin Pharmacol Toxicol*. 2014;115:209–215.
52. Samad MB, Mohsin M, Razu BA, Hossain MT, Mahzabeen S, Unnoor N, et al. [6]-Gingerol, from Zingiber officinale, potentiates GLP-1 mediated glucose-stimulated insulin secretion pathway in pancreatic beta-cells and increases RAB8/RAB10-regulated membrane presentation of GLUT4 transporters in skeletal muscle to improve hyperglycemia in Lepr(db/db) type 2 diabetic mice. *BMC Complement Altern Med*. 2017;17:395.
53. Chakraborty AJ, Mitra S, Tallei TE, Tareq AM, Nainu F, Cicia D, Dhama K, Emran TB, Simal-Gandara J, Capasso R. Bromelain a Potential Bioactive Compound: A Comprehensive Overview from a Pharmacological Perspective. *Life (Basel)*. 2021 Apr 6;11(4):317. doi: 10.3390/life11040317. PMID: 33917319; PMCID: PMC8067380.
54. Properties and Therapeutic Application of Bromelain: A Review. (2012, December 10). Hindawi. Retrieved June 15, 2023, from <https://www.hindawi.com/journals/btri/2012/976203/>
55. Muss C, Mosgoeller W, Endler T. Papaya preparation (Caricol®) in digestive disorders. *Neuro Endocrinol Lett*. 2013;34(1):38-46. PMID: 23524622.
56. Athesh K, Karthiga D., Brindha P. Anti-obesity effect of aqueous fruit extract of *Carica papaya* L. in rats fed on high fat cafeteria diet. *Int. J. Pharm. Pharm. Sci.* 2012;4:327–330
57. Maniyar Y., Bhixavatimath P. Antihyperglycemic and hypolipidemic activities of aqueous extract of *Carica papaya* Linn. leaves in alloxan-induced diabetic rats. *J. Ayurveda Integr. Med.* 2012;3:70–74. doi: 10.4103/0975-9476.96519

58. Santana L.F., Inada A.C., Espirito Santo B., Filiu W.F.O., Pott A., Alves F.M., Guimaraes R.C.A., Freitas K.C., Hiane P.A. Nutraceutical Potential of *Carica papaya* in Metabolic Syndrome. *Nutrients*. 2019;11:1608. doi: 10.3390/nu11071608.

59. Adedapo A., Orherhe V. Anti-nociceptive and anti-inflammatory studies of the aqueous leaf extract of *Carica papaya* in laboratory animals. *Asian J. Exp. Biol. Sci.* 2013;4:89–96.

60. Gasbarrini G, Zaccone V, Covino M, Gallo A. Effectiveness of a "cold dessert", with or without the addition of a mixture of digestive herbs, in subjects with "functional dyspepsia". *J Biol Regul Homeost Agents*. 2010 Jan-Mar;24(1):93-8. PMID: 20385075.

61. Ulbricht, Catherine & Brendler, Thomas & Gruenwald, Joerg & Kligler, Benjamin & Keifer, David & Abrams, Tracee & Woods, Jen & Boon, Heather & Kirkwood, Catherine & Hackman, Dana & Basch, Ethan & Lafferty, Heather. (2005). Lemon balm (*Melissa officinalis* L.): an evidence-based systematic review by the Natural Standard Research Collaboration. *Journal of herbal pharmacotherapy*. 5. 71-114.

62. Lee D, Shin Y, Roh JS, Ahn J, Jeoong S, Shin SS, Yoon M. Lemon Balm Extract ALS-L1023 Regulates Obesity and Improves Insulin Sensitivity via Activation of Hepatic PPAR α in High-Fat Diet-Fed Obese C57BL/6J Mice. *Int J Mol Sci.* 2020 Jun 15;21(12):4256. doi: 10.3390/ijms21124256. PMID: 32549364; PMCID: PMC7352304.

63. Silva H. A Descriptive Overview of the Medical Uses Given to *Mentha* Aromatic Herbs throughout History. *Biology (Basel)*. 2020 Dec 21;9(12):484. doi: 10.3390/biology9120484. PMID: 33371310; PMCID: PMC7767097.

64. Khanna R, MacDonald JK, Levesque BG. Peppermint oil for the treatment of irritable bowel syndrome: a systematic review and meta-analysis. *J Clin Gastroenterol.* 2014 Jul;48(6):505-12. doi: 10.1097/MCG.0b013e3182a88357. PMID: 24100754.

65. Anheyer D, Frawley J, Koch AK, Lauche R, Langhorst J, Dobos G, Cramer H. Herbal Medicines for Gastrointestinal Disorders in Children and Adolescents: A Systematic Review. *Pediatrics.* 2017 Jun;139(6):e20170062. doi: 10.1542/peds.2017-0062. Epub 2017 May 4. PMID: 28562281.

66. Efe Ertürk N, Taşçı S. The Effects of Peppermint Oil on Nausea, Vomiting and Retching in Cancer Patients Undergoing Chemotherapy: An Open Label Quasi-Randomized Controlled Pilot Study. *Complement Ther Med.* 2021 Jan;56:102587. doi: 10.1016/j.ctim.2020.102587. Epub 2020 Oct 9. PMID: 33197662.

67. Papathanasopoulos A, Rotondo A, Janssen P, Boesmans W, Farré R, Vanden Berghe P, Tack J. Effect of acute peppermint oil administration on gastric sensorimotor function and nutrient tolerance in health. *Neurogastroenterol Motil.* 2013 Apr;25(4):e263-71. doi: 10.1111/nmo.12102. Epub 2013 Mar 12. PMID: 23489975.

68. Volqvartz T, Vestergaard AL, Aagaard SK, Andreasen MF, Lesnikova I, Uldbjerg N, Larsen A, Bor P. Use of alternative medicine, ginger and licorice among Danish pregnant women - a prospective cohort study. *BMC Complement Altern Med.* 2019 Jan 5;19(1):5. doi: 10.1186/s12906-018-2419-y. PMID: 30611269; PMCID: PMC6320632.

69. Raveendra KR, Jayachandra, Srinivasa V, Sushma KR, Allan JJ, Goudar KS, Shivaprasad HN, Venkateshwarlu K, Geetharani P, Sushma G, Agarwal A. An Extract of *Glycyrrhiza glabra* (GutGard) Alleviates Symptoms of Functional Dyspepsia: A Randomized, Double-Blind, Placebo-Controlled Study. *Evid Based Complement Alternat Med.* 2012;2012:216970. doi: 10.1155/2012/216970. Epub 2011 Jun 16. PMID: 21747893; PMCID: PMC3123991.

70. Di Pierro F, Gatti M, Rapacioli G, Ivaldi L. Outcomes in patients with nonerosive reflux disease treated with a proton pump inhibitor and alginic acid ± glycyrrhetic acid and anthocyanosides. *Clin Exp Gastroenterol.* 2013;6:27-33. doi: 10.2147/CEG.S42512. Epub 2013 Mar 27. PMID: 23569394; PMCID: PMC3615700.

71. Setright, R. (2017). Prevention of symptoms of gastric irritation (GERD) using two herbal formulas: An observational study. *Journal of the Australian Traditional-Medicine Society*, 23(2), 68–71.

<https://search.informit.org/doi/10.3316/informit.950298610899394>

72. Alizadeh M, Namazi N, Mirtaheri E, Sargheini N, Kheirouri S. Changes of Insulin Resistance and Adipokines Following Supplementation with *Glycyrrhiza Glabra L.* Extract in Combination with a Low-Calorie Diet in Overweight and Obese Subjects: a Randomized Double Blind Clinical Trial. *Adv Pharm Bull.* 2018 Mar;8(1):123-130. doi: 10.15171/apb.2018.015. Epub 2018 Mar 18. PMID: 29670847; PMCID: PMC5896387.

73. van der Veen JN, Kennelly JP, Wan S, Vance JE, Vance DE, Jacobs RL. The critical role of phosphatidylcholine and phosphatidylethanolamine metabolism in health and disease. *Biochim Biophys Acta Biomembr.* 2017 Sep;1859(9 Pt B):1558-1572. doi: 10.1016/j.bbamem.2017.04.006. Epub 2017 Apr 11. PMID: 28411170.

74. Amber KT, Ovadia S, Camacho I. Injection therapy for the management of superficial subcutaneous lipomas. *J Clin Aesthet Dermatol.* 2014 Jun;7(6):46-8. PMID: 25013540; PMCID: PMC4086534.

75. *Phosphatidylcholine-enriched diet prevents gallstone formation in mice susceptible to cholelithiasis.* (2003, July 1). *Journal of Lipid Research.* Retrieved June 15, 2023, from [https://www.jlr.org/article/S0022-2275\(20\)31947-7/fulltext](https://www.jlr.org/article/S0022-2275(20)31947-7/fulltext)

76. Pan M, Hidalgo-Cantabrana C, Goh YJ, Sanzky-Dawes R, Barrangou R. *Comparative analysis of *Lactobacillus gasseri* and *Lactobacillus crispatus* isolated from human urogenital and gastrointestinal tracts.* *Front Microbiol.*

2020;10:3146. doi:10.3389/fmicb.2019.03146

77.Shahram Agah, Abolfazl Akbari, Javad Heshmati, Mahdi Sepidarkish, Mojgan Morvaridzadeh, Payman Adibi, Mohsen Mazidi, Farnaz Farsi, Richard Ofori-Asenso, Nicholas J. Talley, Christine Feinle-Bisset, Systematic review with meta-analysis: Effects of probiotic supplementation on symptoms in functional dyspepsia, Journal of Functional Foods, Volume 68, 2020, 103902,

ISSN 1756-4646, <https://doi.org/10.1016/j.jff.2020.103902>.

(<https://www.sciencedirect.com/science/article/pii/S1756464620301262>)