

Research Summary

Doherty, M., Foley, K-R., & Schloss, J. (2025). Complementary and alternate medicine for autism: A Systematic Review. *Journal of Autism and Developmental Disorders*, 55(10), 3689-3699. <https://doi.org/10.1007/s10803-024-06449-5>

The use of complementary and alternative medicine (CAM) is common and parents of children and young people on the autism spectrum, and people on the spectrum themselves may turn to CAM as a therapy. Special educators may be asked for advice about CAM interventions and this article provides a recent review of research findings on dietary interventions and nutraceuticals from 2013 to 2023.

Papers included were randomised control trials and clinical trials and included dietary interventions and nutraceuticals (for example, vitamins, minerals, probiotics). Of the 36 studies identified, only three included both adults and children, and most participants were male. One reservation regarding the paper is that little information is provided about the quality of the included studies. Only 17 were double-blinded (neither the participant nor assessor knew who was receiving the intervention) and 16 of the 24 nutraceutical studies included a placebo control.

Twelve studies investigated dietary interventions. Findings indicated no evidence for the efficacy of Gluten Free Casein Free diets in changing physiology or behaviour. A diet low in fermentable oligo saccharides, disaccharides, monosaccharides and polyols (FODMAP) improved gastrointestinal symptoms but had no other effects. As there are only a few studies on other diets, more high-quality research is required. One study found positive effects for a ketogenic diet, two studies reported positive effects from camel milk and one for Cysteine Rich Whey Proteins; however, the limited number of studies on these dietary additives means no conclusions can be drawn.

What the authors term “nutraceuticals” (various additives or supplements to the diet) were examined in the remaining 24 studies.

Four studies of L-Carnosine (an amino acid) found mixed and contradictory results on both physiology and on measures such as the Childhood Autism Rating Scale (CARS). Similar findings were made across three studies on sulforaphane. Mixed results were also reported for Omega 3 across a range of variables, with little replication of results, with one study reporting worsening problem behaviour.

Studies of the effects of vitamins and minerals included two studies that reported positive results for folic acid. One study found mixed results for Vitamin B12. Vitamin D intervention also resulted in mixed results with some studies claiming improvement in behaviour and another reporting only changing Vitamin D blood serum levels.

Digestive enzymes, prebiotics and probiotics may reduce gastrointestinal symptoms and alter the microbiome. Studies on probiotics reported mixed results, and specific probiotics may have different effects.

Overall, the authors noted the “contradictory/inconsistent evidence” for the effectiveness of CAM and suggested that more well-designed studies with larger numbers of participants are needed. They suggested that vitamin and mineral supplements may only be helpful if there is a deficiency. For the nutraceutical supplements, they note that further research is required and while parent or teacher report measures may suggest positive outcomes, primary outcome measures may show no improvement.

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Although adverse effects were said to be rare, safety must be a consideration (e.g., raw camel milk may carry bacteria). The authors also suggested that research should include Quality of Life measures to help determine if any observed changes have meaningful impact on the participants' lives.

Overall for special educators

Overall, this review shows, as have other reviews, that there is little evidence that these dietary interventions will have meaningful effects, apart from when deficiencies are present. Special educators should advise parents to consult medical professionals if they are considering any of these CAM therapies. As for any unproven intervention, the expected changes should be clearly described beforehand, and the results objectively monitored as the intervention is implemented.



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