



Nonpharmacologic Supplements Are Recommended For Diabetic Peripheral Neuropathy

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Alpha-lipoic acid (ALA), vitamin D, and acetyl-L-carnitine (ALCAR) show promise for managing diabetic peripheral neuropathy (DPN), but there is no evidence supporting the use of supplements for managing chemotherapy-induced peripheral neuropathy (CIPN), according to a study published in *Pain Practice*.

Researchers conducted a systematic review to evaluate the efficacy of dietary interventions, vitamins, and nutritional supplementation in managing CIPN in adults. Literature published between January 1, 2000, and October 21, 2021, was analyzed. A total of 40 papers were included in the review.

The change in pain scores for Chemotherapy-Induced Peripheral Neuropathy was assessed in 22 studies, including 3367 patients.

- Goshajinkigan*, vitamin E, and vitamin B had mixed results in decreasing pain scores.
- Guilongtongluofang* and Ninjin'yoeito* revealed reductions in peripheral neuropathy.
- Glutamine, N-acetylcysteine, l-carnosine, magnesium or calcium, and crocin improved pain scores.
- Multiple antioxidants were found to increase CIPN compared with nonusers.

Diabetic Peripheral Neuropathy was assessed in 13 studies, which included 2540 patients.

- ALA revealed significant improvements in pain scores.
- In 1 study, vitamin B12 revealed significant improvements.
- ALCAR revealed improvements, and vitamin E, vitamin D, and alpha-lipoic acid significantly improved pain scores.
- Additionally, a low-fat, plant-based diet in combination with vitamin B12 revealed significant improvements.
- The study authors recommend ALA due to a significant reduction in neuropathy total symptom score.

For DPN, the review supports the use of ALA, vitamin D, and ALCAR in the management of DPN and is equivocal regarding the use of B vitamins, vitamin E, and diet.

For CIPN, the review failed to find overwhelming evidence to support the use of any supplement.

Study limitations included a lack of high-quality studies, small patient populations, and the heterogeneity of the scales measuring neuropathic pain.

Reference

Frediani JK, Lal AA, Kim E, et al. The role of diet and non-pharmacologic supplements in the treatment of chronic neuropathic pain: A systematic review. *Pain Practice*. Published online August 31, 2023. doi:10.1111/papr.13291

*Definitions

Goshajinkigan is a Japanese herbal medicine that may alleviate neuropathy and general pain.

Guilongtongluofang is a traditional Chinese medicine that may prevent oxaliplatin-induced neurotoxicity.

Ninjin'yoeito is a traditional Japanese (Kampo) medicine that originates from China and may reduce oxaliplatin-induced cumulative peripheral neuropathy in patients with colorectal cancer.