WHIOCE PUBLISHING PTE. LTD.
PROVIDING
FIRST-CLASS SCIENTIFIC INFORMATION
FOR TOP SCHOLARS

2026 Volume 11, Issue 3
Advances in Precision Medicine
ISSN: 2424-9106 (Online)
ISSN: 2424-8592 (Print)

Traditional Chinese Medicine Dietary Therapy for Painful Diabetic Peripheral Neuropathy: Compatibility Principles and Mechanistic Rationale—A Narrative Review

Ziwei Li*

College of Traditional Chinese Medicine, Beijing University of Chinese Medicine Dongfang College, Cangzhou 061108, Hebei, China

Author to whom correspondence should be addressed.

Abstract: Painful diabetic peripheral neuropathy (PDPN) is one of the most prevalent and refractory chronic complications of diabetes mellitus. Clinically, it is characterized by distal numbness, burning pain, stabbing pain, cold pain, and sensory disturbances, all of which substantially impair quality of life. Although there is no exact disease entity corresponding to PDPN in traditional Chinese medicine (TCM), the condition is generally interpreted within the categories of Xiaoke Bi syndrome, blood Bi, Bi syndrome, numbness, and pain syndrome, based on its diabetic background and manifestations of pain, numbness, and channel obstruction. According to TCM theory, the core pathogenesis of PDPN is defined by a deficiency in origin and excess in superficiality. Long-standing Xiaoke gradually consumes both Qi and Yin, leading to spleen-kidney deficiency, insufficiency of liver blood, and malnourishment of the extremities; meanwhile, phlegm turbidity, blood stasis, cold coagulation, and damp-heat obstruct the channels and collaterals, resulting in pain due to collateral blockage. TCM dietary therapy is grounded in the principle of medicine-food homology and emphasizes syndrome differentiation, mild nourishment, and long-term regulation. Its major therapeutic strategies include replenishing Qi and nourishing Yin, strengthening the spleen and tonifying the kidney, activating blood and unblocking the collaterals, and harmonizing the nutritive and defensive Qi. Recent studies on prescription patterns in diabetic peripheral neuropathy found that *Astragali radix*, *Angelicae sinensis radix*, *Spatholobi caulis*, *Paeoniae radix alba*, *Chuanxiong rhizoma*, and *Achyranthis bidentatae radix* are the main herbs. This shows the treatment idea of supplementing Qi, activating blood, and nourishing the collaterals. At the same time, network pharmacology studies suggest that these compatibility patterns may produce therapeutic effects through interactions among multiple components, targets, and pathways. This review summarizes the TCM pathogenesis of PDPN, the theoretical basis of TCM dietary therapy, representative dietary compatibility patterns, and the supportive evidence from network pharmacology, to provide a theoretical basis for the dietary management of PDPN within the TCM framework.

Keywords: Painful diabetic peripheral neuropathy; Traditional Chinese medicine dietary therapy; Medicine-food homology; Compatibility principles; TCM pathogenesis; Network pharmacology

Online publication: March 26, 2026

1. Introduction

Diabetic neuropathy is a common chronic complication of diabetes mellitus, and distal symmetric polyneuropathy is its most prevalent form. PDPN is characterized by pain-dominant distal sensory symptoms, including burning, stabbing, and cold pain, allodynia, numbness, and sensory abnormalities [1]. Although current guidelines emphasize glycemic control, risk factor management, and symptomatic analgesia, disease-modifying options for established neural injury and chronic neuropathic pain remain limited, supporting the need for long-term, integrative, and sustainable strategies [2].

In the TCM framework, PDPN is not an independent local pain disease. It is a chronic disease process with "Xiaoke" as the root, "pain" as the manifestation, and collateral disease running through the whole course. So, treatment should not only focus on pain relief, but also on the regulation of Qi, blood, Yin, Yang, zang-fu function, and the free flow of the channels and collaterals. Dietary therapy is an important part of TCM preventive treatment and rehabilitation. It has a mild effect, is easy for patients to accept, and is suitable for long-term use. So, it is especially suitable for chronic and recurrent diseases such as PDPN. In recent years, studies on medication patterns in diabetic peripheral neuropathy have found that *Astragali radix*, *Angelicae sinensis radix*, *Salviae miltiorrhizae radix et Rhizoma*, *Spatholobi caulis*, *Paeoniae radix alba*, *Chuanxiong rhizoma*, *Cinnamomi ramulus*, and *Achyranthis bidentatae radix* are frequently used herbs. Their treatment ideas mainly focus on supplementing Qi, activating blood, nourishing blood, and dredging the collaterals [3].

2. TCM pathogenesis of painful diabetic peripheral neuropathy

2.1. Xiaoke with depletion of both Qi and Yin as the fundamental root

In TCM theory, the first cause of Xiaoke is Yin deficiency, with dryness of the internal organs and heat inside the body. As the disease goes on, the loss of Yin affects the movement of Qi and leads to a deficiency of both Qi and Yin. This lack of Qi and Yin causes symptoms of poor nourishment due to Qi deficiency and poor moistening due to Yin deficiency. The distal limbs need Qi, blood, and body fluids to keep normal sensation and movement. So long-term loss of Qi and Yin may show as numbness in the distal limbs, dull pain, reduced sensation, fatigue, and tiredness. Because of this, deficiency of Qi and Yin is one of the basic causes of PDPN.

2.2. Spleen-kidney deficiency and insufficiency of essence and blood as the basis of chronicity

As Xiaoke continues, it uses up Qi and Yin and also harms the spleen and kidney. In TCM, the spleen is the source of Qi and blood and the foundation after birth, while the kidney is the foundation before birth and stores essence. When the spleen and kidney are weak, the body makes less Qi and blood, and the tendons, vessels, and collaterals receive less nourishment. PDPN appears in the distal limbs, but its root lies in zang-fu deficiency. In clinical practice, patients with a long disease course often have weakness of the lower limbs, soreness of the waist and knees, fatigue, and frequent urination at night, which often points to spleen-kidney deficiency or liver-kidney deficiency [4].

2.3. Blood stasis and phlegm turbidity obstructing the collaterals as the key pathogenic basis of pain

The TCM theory that "chronic disease enters the collaterals" provides a key framework for understanding PDPN-related pain. Although PDPN is rooted in deficiency, its pain is closely linked to excess factors, particularly blood stasis, phlegm turbidity, cold coagulation, and damp obstruction. Consistent prescription pattern analyses have identified Astragali Radix-based herb pairs and combinations as representative strategies for supplementing Qi, nourishing blood, activating blood, and unblocking the collaterals [5].

2.4. Disharmony of the nutritive and defensive Qi, with intertwined cold and heat, as the basis for heterogeneous pain phenotypes

PDPN is characterized by heterogeneous symptoms, including burning pain, cold pain, nocturnal aggravation, tactile

hypersensitivity, numbness, and dysesthesia. In TCM, these features are understood as resulting from Ying-wei disharmony and the intermingling of cold and heat. Root deficiency, including Qi-Yin deficiency, spleen-kidney deficiency, and insufficiency of liver blood, underlies the disorder, whereas phlegm, blood stasis, cold coagulation, and damp-heat obstructing the collaterals constitute the branch, with collateral obstruction and insufficient channel nourishment as the core pathological basis.

3. Theoretical basis and therapeutic logic of TCM dietary therapy for PDPN

The theoretical basis of TCM dietary therapy is grounded in the concept of medicine-food homology. Recent expansions of the official list of dual-use substances in China, including the addition of *Astragali radix* in 2023 and *Rehmanniae radix*, *Ophiopogon radix*, *Asparagi radix*, and *Citri grandis exocarpium* in 2024, have provided practical policy support for dietary interventions based on medicinal-food homologous materials [6].

From the TCM perspective, dietary therapy for PDPN emphasizes mild nourishment, gradual regulation, and concurrent treatment of root deficiency and branch excess. Its major functions include supplementing Qi and nourishing Yin, strengthening the spleen and harmonizing the middle burner, activating blood and unblocking the collaterals, tonifying the kidney and replenishing essence, and harmonizing nutritive and defensive Qi, thereby contributing to the alleviation of pain and improvement of collateral nourishment. Warming dietary strategies may be particularly suitable for patients with cold-aggravated symptoms or deficiency-cold patterns [7].

Therefore, TCM dietary therapy for PDPN is better understood as a syndrome-based intervention that supports upright Qi, regulates zang-fu function, nourishes the channels and collaterals, and improves the underlying pathological state of chronic neuropathic pain [8,9].

4. Representative dietary compatibility patterns

TCM dietary therapy for PDPN should follow syndrome differentiation, mild nourishment, and long-term regulation. Based on the diabetic diet, suitable ingredients can be made into porridge, soup, paste, or drinks.

4.1. Astragalus–Yam–Ophiopogon porridge

Astragali radix is sweet and slightly warm. It is often used to tonify Qi, raise clear Yang, and help Qi move blood. *Dioscoreae rhizoma* is sweet and neutral. It is used to strengthen the spleen and nourish the stomach, lungs, and kidneys. *Ophiopogon radix* is sweet, slightly bitter, and slightly cold. It is used to nourish Yin, produce fluids, moisten dryness, and relieve vexation. As porridge, this combination is suitable for patients with long-term Xiaoke with Qi-Yin deficiency and spleen weakness. Common signs include distal numbness, dull pain, fatigue, and dry mouth. In this diet, *Astragali radix* supports Qi, *Dioscoreae rhizoma* strengthens the spleen and kidney, and *Ophiopogon radix* nourishes Yin and fluids. This may help improve circulation and moisten the collaterals.

4.2. Angelicae–Angelica–Spatholobi therapeutic beverage

Astragali radix helps Qi and helps blood form and move. *Angelicae sinensis radix* nourishes blood, activates blood, and relieves pain. *Spatholobi caulis* nourishes blood, activates blood, and relaxes the channels. Used as a therapeutic drink like a decoction, this combination is suitable for patients with Qi-blood deficiency and collateral blockage. Common signs include stabbing pain, numbness, worse pain at night, and discomfort after activity. This combination has a stronger medicinal nature than the one before, but it still follows the idea of TCM dietary therapy. Food can use the effect of medicine, and medicine can be used in nourishing dietary forms. Its main idea is that enough Qi helps blood move, smooth blood flow opens the collaterals, and open collaterals help reduce pain.

4.3. Cinnamon Twig–White Peony–Fresh Ginger–Jujube dietary decoction

Cinnamomi ramulus is acrid, sweet, and warm, and is used to warm the channels and harmonize the nutritive and defensive Qi. *Paeoniae radix alba* is sour, bitter, and slightly cold, and nourishes blood, preserves Yin, and relieves spasm. Fresh ginger warms the middle and dispels cold, whereas jujube tonifies the middle Qi and nourishes the spleen. Together, these ingredients harmonize Ying and Wei, warm the channels, unblock the collaterals, and alleviate pain. This pattern is particularly suitable for PDPN patients with Yang deficiency, cold coagulation, or disharmony of nutritive and defensive Qi, especially those with cold limbs, cold pain, numbness, worsening after exposure to cold, and greater pain at night.

4.4. Yam–Goji–Polygonatum paste

Dioscoreae rhizoma strengthens the spleen and kidney. *Lycii fructus* nourishes the liver and kidney and also benefits essence and blood. *Polygonati rhizoma* replenishes Qi, nourishes Yin, and tonifies kidney essence. Made as a thick paste or nourishing soup, this combination is suitable for patients with a long disease course, liver-kidney deficiency, weakness of the lower limbs, persistent numbness, and soreness of the waist and knees. In this diet, the main idea is slow and steady supplementation in chronic disease. It aims to replenish liver-kidney essence, nourish the tendons and collaterals, and help relieve the repeated and lasting symptoms of PDPN.

4.5. Yam–Poria–Coix Seed–White Hyacinth Bean porridge

Dioscoreae rhizoma supplements spleen Qi; Poria strengthens the spleen and drains dampness; *Coicis semen* strengthens the spleen and removes dampness; and *Dolichoris album semen* strengthens the spleen, harmonizes the middle, and transforms dampness. This combination is suitable for patients with spleen deficiency and damp retention. Common signs include heaviness of the limbs, dull numbness, poor appetite, and fatigue. In diabetes, a long disease course often weakens the spleen. When damp turbidity builds up inside the body, the channels become more blocked, and the distal limbs receive less nourishment. This pattern mainly treats the root by strengthening the spleen, removing dampness, and helping the body produce Qi and blood.

4.6. Black Bean–Goji–Mulberry drink

Black soybean is sweet and neutral. It is used to benefit the kidneys and the essence. *Lycii fructus* nourishes the liver and kidneys. *Mori fructus* nourishes Yin and blood, produces fluids, and moistens dryness. Together, these ingredients are suitable for patients with Yin-blood deficiency and liver-kidney weakness. They are especially suitable for those with distal numbness, dizziness, tinnitus, insomnia, and irritability. This dietary combination is gentle and moistening. It fits the TCM idea that chronic disease should be regulated slowly, not treated in a strong way.

4.7. Summary of dietary compatibility patterns

From the view of TCM dietary therapy, representative compatibility patterns for PDPN should show two main features. First, the selected ingredients should be medicinal-food homologous substances or mild therapeutic foods that are suitable for long-term use. Second, the compatibility should follow syndrome differentiation and basic treatment ideas, such as supplementing Qi and nourishing Yin, strengthening the spleen and harmonizing the middle, activating blood and unblocking the collaterals, tonifying the kidney and replenishing essence, and harmonizing nutritive Qi and defensive Qi. Different dietary patterns match different syndromes. This shows the TCM way of syndrome-based diet therapy, the combined use of food and medicine, and long-term gradual regulation.

5. Network pharmacological support for the above dietary compatibility patterns

It should be clear that network pharmacology is a modern research tool. It helps show the multi-component, multi-target, and multi-pathway features of TCM compatibility, but it does not replace syndrome differentiation. Here, its value is to

give modern support for representative dietary compatibility patterns, not to redefine the TCM basis of dietary therapy.

Current studies on medication patterns in diabetic peripheral neuropathy show that frequently used herbs include *Astragali radix*, *Angelicae sinensis radix*, *Salviae miltiorrhizae radix et rhizoma*, *Cinnamomi ramulus*, *Chuanxiong rhizoma*, *Spatholobi caulis*, *Paeoniae radix alba*, *Rehmanniae radix*, and *Carthami flos*, with therapeutic strategies centered largely on supplementing Qi, activating blood, and relieving collateral obstruction.

Among these ingredients, *Astragali radix* has received the most network pharmacology attention. It is a representative Qi-tonifying herb and a recognized medicinal-food homologous material [10–12]. It also has an important place in TCM theory and modern mechanistic research. Network pharmacology studies of HuangQi Chifeng Decoction for diabetic peripheral neuropathy found key targets such as TNF, VEGFA, IL6, AKT1, CASP3, and PPARG. Main pathways included AGE-RAGE, PI3K-Akt, IL-17, TNF, MAPK, and HIF-1 signaling [13,14]. Studies on the Huangqi-Chuanxiong herb pair also found active compounds such as quercetin, kaempferol, luteolin, and beta-sitosterol. These studies also suggested the involvement of AGE-RAGE and IL-17 signaling pathways [15]. For dietary patterns such as Astragalus–Yam–Ophiopogon Porridge and Astragalus–Angelica–Spatholobus Beverage, the TCM idea focuses on supplementing Qi, nourishing Yin, or activating blood. Studies on Astragalus also suggest that it may have multi-target regulatory effects.

Modern support for liver-kidney tonifying dietary patterns remains indirect and is mainly derived from studies on *Lycii fructus*. Available network pharmacology and molecular docking evidence suggests a potential regulatory role in type 2 diabetes through multi-component and multi-target mechanisms [16], but not direct effects on PDPN. Accordingly, these findings should be interpreted as indirect support for improving chronic deficiency-related internal imbalance rather than as evidence of proven efficacy against neuropathic pain [17].

In contrast, direct network pharmacology evidence is still limited for the Cinnamon Twig–White Peony–Fresh Ginger–Jujube pattern and the Yam–Poria–Coix Seed–White Hyacinth Bean pattern. These dietary combinations are better explained mainly by classical TCM theory and syndrome matching. The first pattern focuses on harmonizing Ying and Wei, warming the channels, and relieving pain caused by cold blockage. The second pattern focuses on strengthening the spleen, removing dampness, and helping the body produce Qi and blood after birth [18–20].

Overall, current evidence indicates that Astragali Radix-centered dietary patterns, especially in combination with blood-activating herbs, have the strongest support from network pharmacology, whereas patterns based on *Lycii fructus* and other liver-kidney tonics are supported only indirectly. In contrast, patterns for harmonizing nutritive and defensive Qi or strengthening the spleen and resolving dampness remain grounded mainly in TCM theory and prescription patterns. Therefore, TCM theory should remain the primary framework, with network pharmacology serving as supportive evidence rather than a one-to-one explanatory model [21].

6. Conclusion

In TCM, PDPN is understood as a chronic Xiaoke-related disorder with collateral obstruction, characterized by root deficiency and branch excess. While Qi-Yin deficiency, spleen-kidney deficiency, and insufficiency of liver blood constitute the root, phlegm, blood stasis, cold, and damp-heat obstructing the collaterals represent the branch. Accordingly, TCM dietary therapy emphasizes mild nourishment, gradual regulation, and simultaneous treatment of both root and branch. Its main methods include supplementing Qi and nourishing Yin, strengthening the spleen and harmonizing the middle, activating blood and unblocking the collaterals, tonifying the kidney and replenishing essence, and harmonizing nutritive Qi and defensive Qi. In practice, diet therapy can use medicinal-food materials such as *Astragali radix*, *Dioscoreae rhizoma*, *Ophiopogonis radix*, *Lycii fructus*, *Angelicae sinensis radix*, *Spatholobi caulis*, *Cinnamomi ramulus*, and *Paeoniae radix alba*, and they can be prepared as porridge, soup, paste, or therapeutic drinks based on syndrome differentiation [22]. At present, research on TCM dietary therapy for PDPN still depends mainly on theory, prescription pattern studies, and network pharmacology studies of related herbs or formulas. Direct high-quality studies on specific dietary patterns, clear TCM syndromes, and pain outcomes are still lacking. Future research should focus on standardized

syndrome stratification, more rigorous dietary protocol design, more objective clinical endpoints, and multi-level mechanistic validation [23], to promote TCM dietary therapy for PDPN from experience-based application toward a more evidence-informed framework [24].

Disclosure statement

The author declares no conflict of interest.

References

[1] Neuropathy Group, Chinese Society of Diabetes, Chinese Medical Association, 2021, Expert Consensus on Diagnosis and Treatment of Diabetic Neuropathy (2021 Edition). Chinese Journal of Diabetes Mellitus, 13(6): 540–557.

[2] American Diabetes Association Professional Practice Committee, 2025, 12. Retinopathy, Neuropathy, and Foot Care: Standards of Care in Diabetes—2025. Diabetes Care, 48(Suppl 1): S252–S265.

[3] Zhang Y, Ye T, 2024, Research Progress on Traditional Chinese Medicine Treatment of Diabetic Peripheral Neuropathy. Journal of Clinical Personalized Medicine, 3(4): 1364–1370.

[4] Su FL, Liu CN, Yao Y, et al., 2025, Medication Patterns of Chinese Patent Medicines for Diabetes Included in Three Catalogues Based on Data Mining. Frontiers in Pharmaceutical Sciences, 29(4): 642–649.

[5] Qiu LJ, Wang XL, Zhang J, et al., 2024, Medication Patterns of Diabetic Peripheral Neuropathy Based on National Chinese Medicine Compound Patents. China Medical Herald, 21(22): 136–141.

[6] Xu S, Hua WJ, 2020, Research Progress on BuYang Huanwu Decoction in Diabetic Peripheral Neuropathy. Traditional Chinese Medicine, 9(2): 92–97.

[7] Shi WJ, Liu RH, 2025, Research Progress on the Mechanism of Dioscoreae Rhizoma in Diabetes and Its Complications. Shandong Medical Journal, 65(1): 144–149.

[8] Tian WG, Liu Y, Gai XH, et al., 2022, Research Progress on the Mechanism of Rehmanniae Radix in Type 2 Diabetes Mellitus. Chinese Traditional and Herbal Drugs, 53(23): 7575–7584.

[9] Zhao DM, Zhong R, Wang XT, et al., 2025, Research Progress on the Mechanism of Corni Fructus in Diabetic Kidney Disease. Chinese Traditional and Herbal Drugs, 56(3): 1078–1087.

[10] National Health Commission of the People's Republic of China; State Administration for Market Regulation, 2023, Announcement on 9 Newly Added Substances Traditionally Used as Both Food and Chinese Materia Medica (No. 9, 2023), November 17, 2023.

[11] National Health Commission of the People's Republic of China; State Administration for Market Regulation, 2024, Announcement on 4 Substances Traditionally Used as Both Food and Chinese Materia Medica, Including Rehmanniae Radix (No. 4, 2024), August 26, 2024.

[12] National Health Commission of the People's Republic of China, 2024, Interpretation of the Announcement on 4 Substances Traditionally Used as Both Food and Chinese Materia Medica (No. 4, 2024), August 26, 2024.

[13] Zhang Y, Wu X, Yao W, et al., 2024, Advances of Traditional Chinese Medicine Preclinical Mechanisms and Clinical Studies on Diabetic Peripheral Neuropathy. Pharmaceutical Biology, 62(1): 544–561.

[14] Fang TL, Liu Y, Xia JY, 2023, Mechanism of HuangQi Chifeng Decoction in Diabetic Peripheral Neuropathy Based on Network Pharmacology. Traditional Chinese Medicine, 12(8): 2436–2443.

[15] Li WT, Zheng SN, Zhang Q, et al., 2021, Mechanism of the Huangqi-Chuanxiong Herb Pair in Diabetic Peripheral Neuropathy Based on Network Pharmacology. Shanghai Journal of Traditional Chinese Medicine, 55(1): 6–12 + 34.

[16] Xu JY, Wang XY, Li RP, et al., 2023, Mechanism of Lycii Fructus in Type 2 Diabetes Mellitus Based on Network Pharmacology and Molecular Docking. Journal of ShenYang Medical College, 25(6): 644–648 + 672.

[17] Cheng Y, Chen Y, Li K, et al., 2024, How Inflammation Dictates Diabetic Peripheral Neuropathy: An Enlightening Review. CNS Neuroscience & Therapeutics, 30(4): e14477.

[18] Klowak M, Lau R, Mohammed MN, et al., 2024, A Systematic Review of Dietary Lifestyle Interventions for Neuropathic Pain. Journal of Clinical Medicine, 13(22): 6766.

[19] Jang HN, Oh TJ, 2023, Pharmacological and Nonpharmacological Treatments for Painful Diabetic Peripheral Neuropathy. Diabetes & Metabolism Journal, 47(6): 743–756.

[20] Gandhi M, Selvarajah D, Tesfaye S, 2022, Diabetes: How to Manage Diabetic Peripheral Neuropathy. Drugs in Context, 11.

[21] Ye D, Fairlie DP, Ma C, et al., 2022, Painful Diabetic Peripheral Neuropathy: Role of Oxidative Stress and Central Sensitisation. Diabetic Medicine, 39(2): e14729.

[22] Çakici N, Fakkel TM, van Neck JW, et al., 2016, Systematic Review of Treatments for Diabetic Peripheral Neuropathy. Diabetic Medicine, 33(11): 1466–1476.

[23] Preston FG, Riley DR, Mojaddidi M, et al., 2023, Painful Diabetic Peripheral Neuropathy: Practical Guidance and Challenges for Clinical Management. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy, 16: 1687–1700.

[24] Chen W, Yang G, Xu X, et al., 2013, Chinese Herbal Medicine for Diabetic Peripheral Neuropathy. Cochrane Database of Systematic Reviews, (10): CD007796.