Biomedical Data Science
2026, VOL. 6, NO. 1, 130-133
DOI: 10.47297/wspbdsWSP2752-630529.20260601

Research Progress in the Treatment of Dry Eye with Traditional Chinese Medicine

Long Wang, Fuwen Zhang*

Eye School of Chengdu University of TCM, Chengdu, Sichuan, 610032, China

ABSTRACT
Dry eye disease (DED), also known as keratoconjunctivitis sicca, is commonly treated in Western medicine with artificial tears, meibomian gland massage, or oral pharmaceuticals, often presenting as a persistent and recurrent condition. In recent years, Traditional Chinese Medicine (TCM) has approached dry eye from perspectives such as yin deficiency, fire stagnation, liver-lung disharmony, and impaired ascending and descending functions of clear and turbid substances. Treatment utilizing herbal medicine, acupuncture, moxibustion, and integrated TCM therapies has yielded favorable outcomes. Therefore, this review examines recent literature to summarize clinical research advances in TCM pathogenesis and treatment strategies for dry eye.

KEYWORDS
Dry eye syndrome; Dry eye; Traditional Chinese medicine treatment; Chinese herbal medicine; Acupuncture

1 Introduction

Dry Eye Disease (DED) is referred to in traditional Chinese medicine as "Baise syndrome," "drying of the divine waters," or "exhaustion of vital energy." The global prevalence of DED ranges from approximately 5.5% to 33.7% [1], with a higher incidence among women and an increase with age [2]. Western medical research on DED pathogenesis currently focuses on disruption of the ocular surface microenvironment. Risk factors include corneal and conjunctival epithelial cell apoptosis, inflammatory responses, and dysfunction of lacrimal and meibomian gland tissues [3]. Long-term treatment outcomes remain suboptimal and costs are high [4]. Traditional Chinese medical therapies—such as herbal medicine, acupuncture, moxibustion, and integrated TCM approaches—demonstrate favorable efficacy in alleviating DED symptoms.

2 The Concept and Symptoms of Dry Eye

Traditional Chinese Medicine Ophthalmology [5] classifies dry eye syndrome as a disease of the sclera. First documented in The Precious Manual of Ophthalmic Examination: White Pain, it refers to an ocular disorder characterized by a sclera that is neither red nor swollen, but primarily presents with subjective symptoms of dryness and discomfort within the eye, and in severe cases, blurred vision. Various medical texts primarily record dryness and pain in the eyes as the principal symptoms.

3 Pathogenesis of Dry Eye Syndrome in Traditional Chinese Medicine

Some scholars believe dry eye stems from abnormalities in the essence nourishing the eyes or the fluids moistening them [6]. Ma Ruonan [7] treats excess-pattern dry eye by differentiating between liver meridian heat stagnation and spleen-stomach damp-heat, while addressing deficiency-heat patterns based on theories of qi-yin deficiency, lung-yin deficiency, and deficiency-pattern with lingering pathogens. Professor Xu Jiajun [8] employs the method of dispersing heat and nourishing yin to treat dry eye, addressing both the root and the symptoms. Professor Zuo Tao [9] advocates "regulating the liver and opening the mystic orifice" as the essential approach for treating DE, which both nourishes the essence and opens the mystic orifice. Wei Wei [10] achieved favorable outcomes by treating dry eye through moistening the lungs, regulating qi, and harmonizing the five zang organs. Lai Siyi et al. [11] systematized the "ascending the clear and descending the turbid" approach for dry eye treatment, drawing from the Huangdi Neijing, Shanghan Lun, and Spleen and Stomach Treatise. In summary, dry eye is commonly understood through pathomechanisms such as deficiency of yin fluids[12], stagnation of deficient and excess fire, disharmony between liver and lung , and impaired ascending and descending of clear and turbid substances.

* **Corresponding Author:** Fuwen Zhang, zfwen333@163.com

4 Clinical Application of Traditional Chinese Medicine in Treating Dyspareunia

Recent studies have primarily employed traditional Chinese medicine to treat dry eye syndrome through methods that nourish yin and clear heat, regulate the liver, and harmonize the lungs. This approach addresses both the symptoms and root causes simultaneously, yielding favorable therapeutic outcomes.

4.1 Internal Use of Chinese Herbal Medicine

Western medicine treatment for dry eye syndrome often leads to recurrence. Traditional Chinese medicine (TCM) treatment for dry eye syndrome, through syndrome differentiation and treatment tailored to individual patients, improves primary symptoms, tear film stability, and the lipid layer of the tear film. Its efficacy surpasses that of Western medicine alone. This approach not only embodies TCM's characteristic of treating the same disease differently through syndrome differentiation and treatment but also fundamentally regulates the patient's overall physical condition. Tian Yang et al [13]. proposed treating liver qi stagnation with blood deficiency pattern dry eye syndrome using the Moistening Eyes and Soothing Liver Decoction combined with sodium hyaluronate eye drops, which improved TCM symptom recovery rates and enhanced tear film stability. Wu Xuesong et al. [14] developed the Qingmu Decoction based on nourishing yin, dispersing stasis, clearing heat, and detoxifying to treat liver meridian wind-heat dry eye syndrome in combination with sodium hyaluronate eye drops. The total effective rate in the observation group was higher than that in the control group using artificial tears alone. Luo Dan et al[15]. classified dry eye patients into four syndromes for treatment: Lung Yin Deficiency type used Yinyang Qingfei Decoction to nourish yin and moisten the lungs; Liver Meridian Heat Stagnation type used Dan Zhi Xiaoyao Powder to clear liver heat, resolve stagnation, and nourish blood; Liver-Kidney Yin Deficiency pattern was treated with Lycium and Chrysanthemum Rehmannia Pill to tonify Liver and Kidney Yin; Qi and Yin Deficiency pattern was treated with Shengmai Powder combined with Lycium and Chrysanthemum Rehmannia Pill to replenish Qi, Yin, Liver, and Kidney. Li Yuanyuan [16]applied holistic TCM principles and pattern differentiation to treat dry eye with pure herbal medicine, achieving confirmed efficacy with near-complete symptom resolution and stable follow-up outcomes. This demonstrates the feasibility and therapeutic direction of TCM in curing dry eye.

4.2 External Application of Traditional Chinese Medicine

Topical Chinese herbal medicine also demonstrates good therapeutic efficacy, primarily employing moisturizing and wind-dispersing herbs for nebulization and fumigation, which also provides a certain degree of heat application. Jiang Dan et al. [17] achieved an 84.44% total effective rate using modified Qinpi Decoction ultrasonic nebulization combined with sodium hyaluronate eye drops for treating dry eye due to liver meridian heat stagnation, surpassing the 62.22% rate in the control group treated with saline nebulization plus sodium hyaluronate eye drops. Chang Chunli et al. [18]demonstrated that combining Chuiyun Ointment with heat fumigation yielded more definitive results than monotherapy with sodium hyaluronate eye drops for dry eye associated with meibomian gland dysfunction due to external invasion of wind-heat. Yao Yu et al. [19] reported that herbal compresses combined with sodium hyaluronate eye drops significantly reduced recurrence rates in dry eye caused by deficiency of liver and kidney qi compared to the control group.

4.3 Acupuncture Therapy

In clinical practice, acupuncture is often combined with other therapies to treat dry eye, yielding proven efficacy. Yu Aizhong et al. [20] demonstrated that acupuncture employing methods to soothe the liver, nourish blood, and moisten the eyes achieved a higher success rate in treating aqueous deficiency compared to the group using artificial tears alone. Zhang Zhao [21]applied the "Traditional Chinese Medicine Constitution" theory, employing acupuncture techniques of tonification and dispersion to treat dry eye in perimenopausal women with a pattern of deficiency at the root and excess at the branch, characterized by impending depletion of Tian Kui. Cai Guofeng et al. [22] demonstrated that the floating needle reperfusion therapy, which continuously directs blood flow to ischemic areas, achieved stable long-term efficacy in treating liver-kidney yin deficiency-type senile dry eye syndrome, outperforming monotherapy with sodium hyaluronate eye drops. Hao Hongyan et al.[23] demonstrated significant efficacy in treating moderate-to-severe dry eye syndrome through combined scalp-body acupuncture and hyaluronic acid eye drops, achieving a higher response rate than hyaluronic acid eye drops alone.

4.4 Moxibustion Therapy

In clinical practice, moxibustion therapy for dry eye syndrome is most commonly administered via the Lei Huo Jiu technique. Multiple clinical studies indicate that Lei Huo Jiu can alleviate dry eye symptoms by improving ocular blood

circulation through warming and unblocking meridians, opening orifices, and harmonizing meridians and vessels[24]. Zhang Yuankun et al.[25] employed rotary moxibustion on the forehead and spot moxibustion around ocular acupoints combined with a nourishing yin and moisturizing eye formula to treat dry eye, achieving a total effective rate of 97.96%, surpassing the 83.33% rate of the herbal medicine group. Zhang Qiaochu et al. [26] demonstrated good efficacy in improving dry eye symptoms by combining thunder fire moxibustion with acupoint massage and sodium hyaluronate eye drops. Their comparison revealed optimal therapeutic effects at a 20-minute treatment duration. Lü Chan et al. [27] employed an adjustable thunder fire moxibustion device for treating dry eye in middle-aged and young adults, enabling simultaneous eye-ear moxibustion with constant temperature control, thereby enhancing therapeutic efficacy and operational efficiency. Li Peifen et al. [28] demonstrated that combining heat-sensitive moxibustion at the Guanyuan acupoint to tonify liver and kidney essence and blood yielded superior efficacy for dry eye compared to conventional nursing alone.

4.5 Comprehensive Traditional Chinese Medicine Therapy

The combination of acupuncture and herbal medicine also yields excellent results. Beyond traditional Chinese therapies like acupuncture, moxibustion, and herbal medicine, other modalities such as gua sha, plum blossom needle therapy, emotional regulation, and auricular therapy demonstrate notable efficacy. Han Erjie et al. [29] achieved superior clinical outcomes in treating liver meridian heat-type dry eye syndrome by combining a modified liver-clearing, fire-purging, and dampness-removing formula with cooling purgation acupuncture techniques, outperforming monotherapy with sodium hyaluronate eye drops. Wang Wenjuan et al. [30] demonstrated that combining copper scraping with plum blossom needle tapping around the eyes and selected acupoints throughout the body, alongside sodium hyaluronate eye drops, effectively improved dry eye symptoms. However, careful attention must be paid to the proficiency of plum blossom needle technique to prevent injury to the patient's eyes. Song Qin [31] demonstrated that emotional care significantly improved clinical symptoms and alleviated negative emotions compared to conventional Western nursing for dry eye. Tang Tang et al. [32] reported that auricular seed therapy combined with sodium hyaluronate eye drops yielded superior outcomes than monotherapy with sodium hyaluronate eye drops.

5 Conclusion

Dry eye is a common condition in ophthalmology, with its persistent recurrence posing a significant challenge in treatment. Traditional Chinese medicine (TCM) treatments primarily involve acupuncture, moxibustion, and the internal and external application of herbal medicines. These approaches can alleviate patients' clinical symptoms and enhance their quality of life. However, there is currently no comprehensive and effective cure for dry eye that has been widely adopted. Therefore, developing accessible and simplified TCM treatment protocols that can lead to full recovery for dry eye patients is an urgent issue for ophthalmic clinicians. A holistic TCM approach to syndrome differentiation and treatment for each patient represents a new direction for curing dry eye. Given the increasing demands on visual function in modern life, patients should also be advised on proper eye care to eliminate potential sources of the disease.

References

[1] Liang Z. Y., & He P. (2019). [Research progress on epidemiological investigation and TCM syndrome differentiation of dry eye]. World Journal of Integrated Traditional and Western Medicine, 14(1), 138-141.

[2] Shao Y., Chen L. J., & Zou J. (2022). [Interpretation of the 2021 expert consensus on the diagnosis, assessment and treatment of dry eye]. Recent Advances in Ophthalmology, 42(10), 757-762.

[3] Tang B. W., Luo D., Yan X. Q., et al. (2025). [Research progress on inflammatory pathways related to dry eye and TCM intervention]. Information on Traditional Chinese Medicine, 42(11), 75-82.

[4] Huang X. L., Chen X. D., & Song Y. (2020). [New progress in the treatment of dry eye with integrated traditional Chinese and Western medicine]. Chinese Journal of Chinese Ophthalmology, 30(6), 443-446.

[5] Peng Q. H., Guo C. W., & Zhang Y. J. (2019). Ophthalmology of traditional Chinese medicine. Shanghai Scientific & Technical Publishers.

[6] Jiang J., Chen X. D., Huang L., et al. (2024). [Analysis of the relationship between dry eye and the liver and lung based on the theory of "the white eye responds to the lung and is governed by the liver"]. Hubei Journal of Traditional Chinese Medicine, 46(7), 53-56.

[7] Ma R. N., Wu Z. Z., Gao M. X., et al. (2022). [Discussion on the treatment of dry eye from the perspective of "expressing stagnant fire"]. Chinese Journal of Chinese Ophthalmology, 32(10), 798-800+826.

[8] Jia A. X., Xu Y. C., Ye Z. X., et al. (2023). [Summary of experience in treating dry eye in Sjögren's syndrome with the method of clearing heat and nourishing yin]. China Journal of Traditional Chinese Medicine and Pharmacy, 38(3), 1105-1108.

[9] Chi K. Y., Zhao L., Cheng X. F., et al. (2022). [Professor Zuo Tao's experience in treating non-age-related dry eye by "regulating the liver and opening the mysterious"]. Western Journal of Traditional Chinese Medicine, 35(12), 84-87.

[10] Wang X. F., & Wei W. (2020). [Wei Wei's experience in treating dry eye from the lung]. Journal of Traditional Chinese Medicine, 35(8), 1713-1716.
[11] Lai S. Y., Luo Y. W., Fang Y., et al. (2023). [Theoretical discussion and clinical application of the method of ascending the clear and descending the turbid in treating eye diseases]. Chinese Journal of Chinese Ophthalmology, 33(2), 143-147.
[12] Li D. (2022). [Discussion on treating dry eye by nourishing yin and moistening the lung]. Acta Chinese Medicine and Pharmacology, 50(3), 1-4.
[13] Tian Y., Zhou J., Zhu X. B., et al. (2025). [Observation on the therapeutic effect of Runmu Shugan Decoction on dry eye with liver depression and blood deficiency syndrome]. Chinese Journal of Chinese Ophthalmology, 35(12), 1126-1130+1137.
[14] Wu X. S., & Li Q. L. (2021). [Clinical efficacy of self-formulated Qingmu Decoction on dry eye with liver meridian wind-heat syndrome and its effect on related factors in tears]. Chinese Journal of Chinese Ophthalmology, 31(10), 708-711+716.
[15] Luo D., & Gao W. P. (2021). [Clinical study on the treatment of dry eye with TCM syndrome differentiation]. Chinese Journal of Chinese Ophthalmology, 31(5), 331-336.
[16] Li Y. Y., Sang Z. J., & Wu L. (2021). [Treatment of meibomian gland dysfunction-related dry eye with Gegen Qinlian Decoction]. Chinese Journal of Chinese Ophthalmology, 31(8), 581-584.
[17] Jiang D., Hou Y. H., Huang T., et al. (2025). [Clinical observation on ultrasonic atomization of Modified Qinpi Decoction for dry eye with liver meridian stagnant heat syndrome]. Lishizhen Medicine and Materia Medica Research, 36(14), 2689-2693.
[18] Chang C. L., Chen Z. Q., Chen D., et al. (2023). [Clinical observation on hot fumigation with Chuiyun Gao for meibomian gland dysfunction-related dry eye with wind-heat invading the exterior syndrome]. Hebei Journal of Traditional Chinese Medicine, 45(7), 1120-1123.
[19] Yao Y., Guo H., & Huo Q. (2023). [Clinical observation on topical application of Chinese herbal medicine for dry eye patients with liver-kidney deficiency syndrome]. World Journal of Integrated Traditional and Western Medicine, 18(4), 778-782+786.
[20] Yu A. Z., Zhang J. J., Ge S. C., et al. (2024). [Observation on the therapeutic effect of soothing the liver, nourishing blood, and moistening the eyes acupuncture method on aqueous tear-deficient dry eye]. Chinese Journal of Chinese Ophthalmology, 34(9), 840-845.
[21] Zhang Z., & Liang F. M. (2023). [Analysis of acupuncture treatment for perimenopausal dry eye based on the theory of "TCM constitution"]. Chinese Journal of Chinese Ophthalmology, 33(4), 358-361.
[22] Cai G. F., Xu K., Gao Z. Y., et al. (2022). [Clinical study on Fu's subcutaneous needling with reperfusion technique for senile dry eye with liver-kidney yin deficiency]. Journal of Clinical Acupuncture and Moxibustion, 38(8), 25-29.
[23] Hao H. Y., Zhao Y., Yang K., et al. (2024). [Clinical study on combined scalp and body acupuncture with sodium hyaluronate eye drops for moderate to severe dry eye]. China Journal of Modern Medicine, 34(11), 1-7.
[24] Song L., Tang W. H., Yu X. Y., et al. (2015). [Multicenter observation on the clinical efficacy of thunder-fire moxibustion in treating dry eye]. Chinese Journal of Chinese Ophthalmology, 25(2), 98-101.
[25] Zhang Y. K., Wang J. L., Liu J., et al. (2025). [Evaluation of the clinical efficacy of thunder-fire moxibustion combined with Yangyin Runmu Formula for dry eye]. Chinese Journal of Chinese Ophthalmology, 35(3), 225-231.
[26] Zhang Q. C., Lian Z. X., Xie L. K., et al. (2022). [Dose-effect study on the treatment time of thunder-fire moxibustion combined with acupoint massage for dry eye]. Chinese Journal of Chinese Ophthalmology, 32(12), 995-999+1003.
[27] Lyu C., Liu X. F., Long X. H., et al. (2022). [Application of an adjustable eye-specific thunder-fire moxibustion frame in treating young and middle-aged patients with dry eye]. Journal of Nurses Training, 37(15), 1436-1439.
[28] Li P. F., & Tang T. M. (2021). [Effect and nursing care of heat-sensitive moxibustion in treating dry eye asthenopia]. Journal of Contemporary Clinical Medicine, 34(1), 90-91.
[29] Han E. J., Li M. D., Wang Y., et al. (2024). [Efficacy analysis of Qinggan Xiexie Chushi Formula combined with cool-dispelling acupuncture for dry eye with liver meridian stagnant heat syndrome]. Liaoning Journal of Traditional Chinese Medicine, 51(8), 106-109.
[30] Wang W. J., Duan P. B., Chen Q., et al. (2023). [Application of Tongbian scraping combined with plum-blossom needle tapping in patients with dry eye]. Chinese Nursing Research, 37(24), 4527-4530.
[31] Song Q. (2022). [Effect of TCM emotional nursing on patients with dry eye]. Psychological Monthly, 17(13), 162-164.
[32] Tang T., Xu J. J., Wang F., et al. (2021). [A randomized controlled study of auricular point pressing combined with sodium hyaluronate eye drops in treating dry eye]. Modern Chinese Clinical Medicine, 28(5), 20-23.