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Research Progress on Time-Specific Acupuncture for Dry Eye Based on the "Five Movements and Six Qi" Theory

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Abstract: ***Dry eye is a common clinical ocular surface disease characterized primarily by an imbalance in the tear film homeostasis, which significantly affects patients' quality of life. In recent years, time-specific acupuncture therapy based on the Five Movements and Six Qi theory has demonstrated unique advantages in the treatment of dry eye and has gradually become a research focus at the intersection of Traditional Chinese Medicine's chronobiology and clinical ophthalmology. This article systematically reviews the academic origins and theoretical framework of acupuncture for dry eye guided by the Five Movements and Six Qi theory. It summarizes clinical research progress on time-based acupuncture protocols for dry eye, including the Long-Sha Opening-Closing Six Qi Acupuncture Method, the Zi-Wu Flow Acupuncture Method, and Gu's Tai Chi Opening-Closing Pivot Timing Chart. The article also summarizes modern research evidence on relevant mechanisms of action, analyzes current research shortcomings, and outlines future research directions. Research indicates that time-segmented acupuncture based on the Five Movements and Six Qi theory exerts therapeutic effects through multiple pathways, such as regulating the neuro-immune-inflammatory network and improving tear film stability; however, existing studies still require further improvement in terms of the level of evidence and the depth of mechanism exploration.***

Keywords: Five Movements and Six Qi, Time-segmented acupuncture, Dry eye, Opening and Closing of the Six Qi Acupuncture Method, Zi-Wu Flow; Research progress**.**

1. Introduction

The essence of dry eye disease (DED) is not merely "surface dehydration" but rather a series of cascading pathological changes triggered by the disruption of tear film homeostasis. Clinically, mild cases present as dryness, a foreign body sensation, or a burning sensation, while severe cases may be accompanied by persistent eye strain. If inflammation and dryness persist, the corneal epithelium may suffer irreversible damage, ultimately threatening visual function [1]. In recent years, the global prevalence of this disease has been rising rapidly. The driving forces behind this trend include the exponential increase in screen time, the accelerating aging of the population, and the widespread adoption of modern lifestyles—such as exposure to air pollution and air-conditioned environments. Dry eye has evolved from a purely clinical issue into a public health challenge that cannot be ignored. Faced with this situation, although current Western medical interventions encompass various approaches —such as artificial tear supplementation, immunosuppressive and anti-inflammatory therapies, and physical unblocking of the meibomian glands—there remains a lack of core strategies capable of addressing the root cause. Most patients are forced to cycle between recurrent flare-ups and symptomatic management, with limited and short-lived therapeutic effects [2].

In Traditional Chinese Medicine (TCM), dry eye syndrome is often referred to as "bai se syndrome" or "shen shui jiang ku." In layman's terms, this means the eyes lack sufficient body fluids to nourish them, causing them to become dry, and dysfunctional. TCM holds that the root cause lies in a deficiency of qi, blood, and body fluids throughout the body, which prevents these vital substances from smoothly ascending to the eyes, resulting in a loss of nourishment [3]. In other words, dry eye is not merely a localized problem of the eyes but rather reflects an overall imbalance of the body and mind.

Among the many TCM therapies, acupuncture is increasingly being used to help alleviate dry eye symptoms. Its mechanism of action is not mysterious—it primarily works by stimulating specific acupoints on the body to regulate the flow of qi and blood in the meridians, restoring balance to the body's yin-yang state and thereby improving nourishment to the eyes [4]. This approach is simple and has minimal side effects, and is gradually gaining recognition among both doctors and patients.

Notably, a new concept that has emerged in recent years involves closely integrating acupuncture with specific times of day—known as "time-specific acupuncture." Its theoretical foundation stems from the ancient TCM doctrine of the "Five Movements and Six Qi." In layman's terms, this theory posits that a person's physical condition fluctuates with changes in the year, season, and hour; therefore, treatment that aligns with these patterns often yields better results [5]. Driven by this approach, various specific protocols have emerged, such as the Longsha Opening and Closing Six Qi Acupuncture Method, the Zi-Wu Flow and Distribution Acupuncture Method, and Gu's Tai Chi Opening and Closing Pivot Timing Chart [6]. Their application in the treatment of dry eye indicates that TCM's "time-based medicine" has moved beyond theoretical discussions in textbooks and has truly entered clinical practice [7].

The purpose of this article is to systematically organize the research findings on time-based acupuncture based on the "Five Movements and Six Qi" theory and to introduce their current applications in the treatment of dry eye. We hope that this overview will provide practical guidance for practicing clinicians and chart a course for more in-depth future

research.

2. Overview of the Theory of the Five Movements and Six Qi and Time-Specific Acupuncture

2.1 The Core Concepts of the Theory of the Five Movements and Six Qi

The theory of the Five Movements and Six Qi can be traced back to the "Seven Treatises on the Movement of Qi" in the *Huangdi Neijing* (The Yellow Emperor's Inner Canon). It is a set of principles summarized by ancient scholars through long-term observation of nature, and its core idea is simple: climatic changes in nature are not random but follow a specific rhythm of cyclical repetition, and the human body's condition and diseases also fluctuate in accordance with this rhythm [5]. Specifically, this theory uses the "Five Movements" and "Six Qi" systems to categorize these changes. The "Five Movements" are calculated using the Heavenly Stems (such as Jia, Yi, Bing, and Ding) and primarily describe the patterns of a minor five-year cycle and a major ten-year cycle. During this period, each year is further divided into five phases, with each phase dominated by a specific "Movement"—such as the Wood Movement, Fire Movement, Earth Movement, Metal Movement, and Water Movement—which take turns influencing the climate of different seasons and the corresponding functions of the human organs. The "Six Qi" is calculated using the Earthly Branches (Zi, Chou, Yin, Mao, etc.) and reflects periodic changes that follow a six-year cycle and a twelve-year cycle. A year is divided into six periods, each governed by a specific "Qi"—such as Wind, Heat, Fire, Dampness, Dryness, and Cold—which take turns influencing the climatic characteristics of different periods and the health issues people are prone to during those times.

By combining the Five Movements with the Six Qi, the ancients established longer units of time—a "Ji" spanning thirty years and a "Zhou" spanning sixty years. In this way, the relationship between climate and health is observed within a longer and more comprehensive temporal framework [8]. The Five Movements and Six Qi are not esoteric concepts. They are not only a crucial cornerstone of the fundamental theories of Traditional Chinese Medicine—helping us understand how the five zang organs and six fu organs function, how the Three Yin and Three Yang Six Meridians circulate, and how the Twelve Meridians are interconnected—but they also provide a unique perspective for us today to nurture our bodies and prevent disease in harmony with the laws of nature [5]. Simply put, as human beings living between heaven and earth, our health is inextricably linked to climate and the seasons.

2.2 Theoretical Foundations of Time-Specific Acupuncture

Time-specific acupuncture is a branch of acupuncture that incorporates the time factor into treatment decision-making. Its theoretical foundations can be understood from three levels: "Correspondence Between Heaven and Man," "Unity of Form and Spirit," and "Five Movements and Six Qi." Regarding the Yin and Yang of the four seasons, the body's qi and blood undergo cyclical fluctuations in abundance and deficiency with the changing seasons [9]; at the level of the Five Movements and Six Qi, different patterns of the Five Movements and Six Qi influence the excess or deficiency of the body's organ functions; and in terms of the flow of qi and blood through the meridians, the qi and blood of the Twelve Meridians flow in a specific sequence according to the hours of the day, forming the "Zi-Wu Flow" pattern. Together, these three aspects constitute the theoretical basis for the "timely treatment" approach in time-based acupuncture. Some scholars define Traditional Chinese Medicine (TCM) chronological medicine as "a discipline based on the fundamental theories of TCM that studies the relationship between human physiology and pathology and the laws of change in the natural world," with its content encompassing theories such as the Five Movements and Six Qi, the Zi-Wu Flow, and the Eight Methods of the Divine Tortoise [10].

2.3 The Relationship Between the Five Phases and Six Qi and Eye Diseases

The "Huangdi Neijing" emphasizes the "correspondence between Heaven and Man," which views the human body as a microcosm—the internal rhythms of the body are in sync with the grand rhythms of Heaven, Earth, and nature. Building on this foundation, the theory of the Five Movements and Six Qi correlates the six climatic states of nature — "Wood, Fire, Earth, Metal, Water, and Wind" — with the six meridians of the human body (Taiyang, Yangming, Shaoyang, Taiyin, Shaoyin, and Jueyin) [11]. According to this line of thinking, eye problems are not merely localized issues within the eye itself, but rather result from abnormal changes in the external climate that disrupt the body's internal balance along the meridians; when the internal and external states resonate, the disease manifests.

Clinically, certain signs can indeed be observed. For example, the onset or exacerbation of some eye diseases is closely related to seasonal changes. Take dry eye syndrome as an example: when the "Yangming Dry Metal" climate—characterized by dryness—is in season, the external environment is inherently dominated by dryness, and the body's internal fluids are prone to depletion; symptoms of dryness and discomfort in the eyes often become more pronounced. Conversely, during the period governed by "Jueyin Wind Wood," wind energy tends to be more active, which corresponds to an excess of liver qi in the body [12], at which time issues such as itchy or red eyes are more likely to arise. These phenomena, which fluctuate with the solar terms, precisely illustrate that the onset and progression of eye diseases are intrinsically linked to the passage of time. It is precisely this regular correspondence that provides a natural theoretical basis for "time-specific acupuncture" in treating eye diseases: since the onset of disease is time-dependent, treatment can also align with and leverage this timing.

3. TCM Etiology and Pathogenesis of Dry Eye in Light of the Five Movements and Six Qi

3.1 TCM Etiology and Pathogenesis of Dry Eye

In Traditional Chinese Medicine, there is a fundamental understanding regarding the eyes: they are the convergence

point of the body's meridians. The essence and qi generated by the zang-fu organs are continuously transported upward through the meridian channels; only by receiving this nourishment can the eyes see clearly and move flexibly. Conversely, once the functions of the zang-fu organs become disordered, leading to insufficient supply of qi, blood, and body fluids, the eyes lose their nourishment, and dryness and irritation ensue [3].

Regarding the exact mechanism of dry eye, medical scholars throughout history have offered their insights from various perspectives; although their explanations differ, they are not mutually contradictory.

Some scholars summarize the pathogenesis into four aspects: first, insufficient qi and blood, resulting in inadequate nourishment to the eyes; second, the failure of clear yang qi to rise, leaving the eye orifices without warmth; third, the upward intrusion of damp-turbid pathogens, obstructing the circulation of qi and blood in the eyes; fourth, yin fire takes advantage of the situation to disturb the eyes, depleting their body fluids [13]. These four conditions may occur individually or simultaneously.

Other medical experts place greater emphasis on the factor of "overwork." They believe that modern people's excessive use of their eyes and mental strain most easily deplete liver blood. When blood is deficient, qi also weakens, and body fluids cannot follow the flow of qi upward to the eyes—this is the core issue of dry eye [3]. This explanation aligns more closely with common triggers encountered in daily life.

When considering the various perspectives together, they can actually be summarized into a consensus: the fundamental pathogenesis of dry eye is "deficiency at the root and excess at the branch." "Deficiency at the root" refers to an inherent insufficiency in the functions and material reserves of the zang-fu organs—this is the root cause; "excess at the branch" refers to the resulting superficial symptoms, such as the depletion of body fluids and the failure to nourish the ocular collaterals—these are the manifestations.

3.2 Studies on the Correlation Between Dry Eye and the Five Phases and Six Qi

In recent years, scholars have begun to explore the pathogenesis of dry eye from the perspective of the Five Phases and Six Qi. A study involving 541 dry eye patients found a certain correlation between the incidence of dry eye and the constitutional endowment of the Five Movements and Six Qi at birth [14]. Specifically, individuals born in the Year of Ji Si, with the Earthly Branch Mao, during the annual cycle of Shao Fire, when Yangming Dry Metal governs the heavens and Shaoyin Sovereign Fire governs the earth, and during the solar term of Frost Descent, are more prone to developing dry eye [15]. Another study involving 685 dry eye patients similarly conducted a statistical analysis of the distribution patterns of the Five Movements and Six Qi at birth [16]. These findings suggest that one's innate constitutional endowment may constitute the constitutional basis for the onset of dry eye [14]. From the perspective of the Theory of the Five Movements and Six Qi, in years when Yangming Dry Metal governs the heavens, dryness tends to prevail, making it easier to damage body fluids and deplete humors—a phenomenon consistent with the core pathogenesis of dry eye, namely "deficiency of body fluids and humors." This understanding provides a theoretical basis for implementing individualized, time-specific acupuncture for dry eye patients with different Five Movements and Six Qi backgrounds.

4. Time-Specific Acupuncture Protocol Based on the Five Movements and Six Qi

4.1 Longsha Opening-Closing Six Qi Acupuncture Method

The Longsha Opening-Closing Six Qi Acupuncture Method was developed by Professor Gu Zhishan, a representative inheritor of the Longsha medical school, and his team based on the Five Movements and Six Qi theory and the Opening-Closing Pivot theory of the Three Yin and Three Yang meridians. The Opening-Closing Pivot theory originates from the "Huangdi Neijing" (Yellow Emperor's Inner Canon) and reflects the process of Yin-Yang transformation and movement, representing the laws governing the spatial movement of all things in nature [7]. This theory regulates the ascending, descending, entering, and exiting of qi through the principles of "Opening (Kai), Closing (He), and Pivot (Shu)": the Taiyang meridian governs Opening, the Yangming meridian governs Closing, and the Shaoyang meridian serves as the Pivot [8].

In clinical application, the Longsha Opening-Closing Six Qi Acupuncture Method integrates the Five Movements and Six Qi conceptual framework—which governs the Heavenly, Human, and Disease aspects—into acupuncture practice [7]. For eye diseases that manifest during different solar terms, corresponding "Opening-Closing-Pivot" acupoints are selected. Professor Gu Zhishan particularly emphasizes that "effectiveness depends on the arrival of qi," advocating that acupuncture be performed in accordance with the solar terms and specific times of day—after the Winter Solstice, it is advisable to strengthen the qi of the Shaoyin meridian, while after the Summer Solstice, treatment should focus on regulating the Yangming meridian, so that the stimulation from the needle tip resonates with the qi of heaven and earth [7]. In scalp acupuncture, this method applies the "guest-host plus temporary" principle to select acupoints, targeting the corresponding meridian regions based on the solar term during which the disease manifested [7]. In addition to dry eye, this acupuncture method has also been reported to be effective for treating intractable ophthalmic conditions such as optic nerve atrophy following brain tumor surgery [17]; its approach to treating non-arteritic anterior ischemic optic neuropathy based on the "Kaihe Shu" theory also provides a reference for time-based acupuncture treatment of dry eye [18].

4.2 Zi-Wu Liu-Zhu Acupuncture Method

The Zi-Wu Liu-Zhu acupuncture method is a unique technique that involves opening acupoints daily according to specific times, based on the course of the body's meridians and the theory of the fluctuations in the flow of qi and blood [10]. This method uses the 66 Wu-Shu points located below the elbows and knees along the Twelve Meridians as its

foundation, incorporating calculations based on Yin-Yang, the Five Elements, the Ten Heavenly Stems, and the Twelve Earthly Branches to select acupoints according to the time of day. The Meridian Flow Acupuncture Method primarily involves two approaches to selecting acupoints: the "Na Jia" method, which uses the Heavenly Stems to mark days and calculates acupoint selection based on the principle that "on Yang days and Yang hours, Yang meridians are activated; on Yin days and Yin hours, Yin meridians are activated"; and the "Na Zi" method, which uses the Earthly Branches to mark hours and directly selects specific acupoints on the currently active meridian [19].

Some scholars have proposed that incorporating the principles of Qi transformation from the Five Movements and Six Qi into the Zi-Wu Flow and Influx theory can address the limitations of its fixed, time-based acupoint selection rules and enhance its advantages in chronological medicine [19]. This integrated "Five Movements and Six Qi–Flow and Influx" model expands time-based acupuncture from merely "selecting acupoints according to the time" to "selecting the optimal time for treatment within the context of the Five Movements and Six Qi."

4.3 Gu's Tai Chi Opening-Closing Pivot Phasic Chart

Based on the Five Movements and Six Qi theory from the "Huangdi Neijing" (The Yellow Emperor's Inner Canon), Professor Gu Zhishan developed the Gu's Tai Chi Opening-Closing Pivot Phasic Chart [5]. This phasic chart integrates the "spatial" concept of the Tai Chi Bagua diagram, the "temporal" principle of the Zi-Wu Flow, and the Six Lü theory of the Luo Shu, and comprehensively incorporates the acupuncture principles outlined in the "Neijing" [6]. Based on this phase chart, and guided by theories such as Ju Ci, Miao Ci, the Zi-Wu Flow, and "drawing Yang from Yin and Yin from Yang," acupuncture can be clinically applied to treat various conditions, including dry eye syndrome [20]. The core feature of this approach lies in integrating the patient's Wu Yun information with spatiotemporal orientations to achieve individualized acupuncture decision-making.

5. Clinical Studies on Time-Specific Acupuncture for Dry Eye Syndrome

5.1 Clinical Practice of the Longsha Opening-Closing Six-Qi Acupuncture Method

The Longsha Opening-Closing Six-Qi Acupuncture Method has accumulated extensive clinical experience in the treatment of eye diseases. Clinical observations indicate that implementing Six-Qi acupuncture interventions at the transition points of the solar terms can restore balance in patients with eye diseases caused by autonomic nervous system dysfunction [7]. Some practitioners have applied the Five Movements and Six Qi theory to guide comprehensive therapies—including acupuncture, pressure needle therapy, oral Chinese herbal medicine, auricular acupoint pressure therapy, and moxibustion—for the treatment of dry eye syndrome, achieving significant results in improving symptoms, shortening the course of the disease, and reducing recurrence [7]. The advantage of the Longsha Kaihe Six Qi Acupuncture Method in treating dry eye lies in its proactive "preventive medicine" approach—it not only alleviates existing symptoms but also provides preventive regulation based on the laws of the Five Movements and Six Qi [7].

5.2 Clinical Research on the Zi-Wu Liu Zhu Acupuncture Method

Clinical research on the Zi-Wu Liu Zhu Acupuncture Method for treating dry eye has been relatively systematic. An Zhiwen et al. randomly assigned 110 patients with aqueous deficiency dry eye syndrome to a control group (polyethylene glycol eye drops) and a treatment group (Ziwu Liuzhu acupuncture combined with Chinese herbal fumigation). After 6 weeks of treatment, the overall response rate in the treatment group was 94.55%, significantly higher than the 78.18% in the control group. The treatment group outperformed the control group in terms of symptom scores for dryness, foreign body sensation, and visual fatigue, as well as objective indicators such as tear secretion volume (SIT), tear film break-up time (BUT), and corneal fluorescein staining (FL) scores. At the mechanistic level, the treatment group exhibited significantly lower levels of inflammatory factors in serum—including matrix metalloproteinase-9 (MMP-9), interleukin-1β (IL-1β), interleukin-6 (IL-6) in tears, tumor necrosis factor-α (TNF-α), and high-sensitivity C-reactive protein (hs-CRP)—compared to the control group [21]. This study demonstrates that the Meridian Circulation Acupuncture technique can significantly regulate cytokine levels, alleviate inflammation, and improve tear film stability.

Huang Liqun et al. employed a combination of Chinese herbal steam therapy and the Meridian Flow Acupuncture method to treat dry eye syndrome of the liver-kidney yin deficiency type, similarly confirming the efficacy of this combined treatment regimen [22]. Furthermore, a study examining the effects of acupuncture at the Zhaohai acupoint using twisting techniques at different frequencies on BUT, SIT, and quality of life in patients with dry eye syndrome of the liver-kidney yin deficiency type also confirmed that precise modulation of acupuncture techniques influences therapeutic efficacy [23].

5.3 Clinical Application of Gu's Tai Chi Opening-Closing Pivot Phase Chart

Treatment regimens combining acupuncture and herbal medicine based on Gu's Tai Chi Opening-Closing Pivot Phase Chart have demonstrated remarkable efficacy in the treatment of dry eye. Clinically, by comprehensively analyzing patients' Qi and Yin information and combining it with the phase diagram to determine acupuncture locations and timing, while integrating the use of Qi and Yin formulas, a treatment model of "combined acupuncture and herbal medicine, integrating time and space" is formed [6]. Although current reports are primarily case studies and summaries of clinical experience, this therapeutic approach provides a new paradigm for time-segmented acupuncture in the treatment of dry eye.

5.4 Other Studies on Time-Specific Acupuncture

In addition, a study combining Fengyi Sun Decoction with ocular acupuncture to treat dry eye syndrome following cataract surgery demonstrated that this integrated therapy produces synergistic effects in alleviating patients' anxiety

and improving ocular surface parameters [24, 25]. Although these studies do not strictly adhere to the concept of pure time-specific acupuncture, they all embody the TCM philosophy of "time-specific and patient-specific treatment" as outlined in the theory of temporal medicine.

6. Research on Mechanisms of Action

6.1 Neural Regulatory Mechanisms

Modern medical research provides us with a concrete and measurable perspective. Researchers used heart rate variability analysis—a non-invasive method—to assess the functional state of the human autonomic nervous system. The results showed that when the Six-Qi Acupuncture Method is administered at the specific time of seasonal transition, patients with eye diseases who originally had autonomic nervous dysfunction exhibited a marked shift toward balance in their neural regulatory state [7].

Furthermore, this improvement at the level of neural regulation is accompanied by changes in two observable clinical indicators: an increase in tear secretion and a reduction in markers of ocular surface inflammation. In other words, as neural function stabilizes, symptoms such as dryness and redness of the eyes also improve. The human body has two systems that regulate the lacrimal glands: one is the parasympathetic nervous system, which acts like a "start button"—when activated, it stimulates the lacrimal glands to secrete large amounts of tears; the other is the sympathetic nervous system, which primarily regulates the specific components of tears, such as protein and electrolyte levels. Only when these two systems work in harmony can tear production ensure both sufficient quantity and quality.

Based on this mechanism, time-specific acupuncture likely exerts its effects through this pathway—by intervening at specific time points that align precisely with the body's rhythms of qi and blood circulation. This helps regulate the balance of the autonomic nervous system, thereby restoring the tear glands to their normal functioning rhythm and addressing dry eye at its root cause.

6.2 Inflammation and Immune Regulation

A clinical study on the treatment of dry eye using the Zi-Wu Liu-Zhu acupuncture method combined with Chinese herbal fumigation showed that levels of inflammatory factors — including serum MMP-9, IL-1β, and tear-film IL-6, TNF-α, and hs-CRP—were significantly reduced in patients following treatment [21]. The onset of dry eye is closely related to ocular surface inflammation, and inflammatory factors can disrupt tear film stability and damage the corneal epithelium. Time-segmented acupuncture may exert its therapeutic effects by downregulating the expression of inflammatory factors and suppressing ocular surface inflammatory responses [25].

6.3 Tear Film Stability and the Ocular Surface Microenvironment

Clinical studies have confirmed that time-segmented acupuncture can significantly prolong tear film break-up time (BUT), increase tear secretion volume (SIT), and reduce corneal fluorescein staining (FL) scores [21, 26]. Animal studies have also shown that acupuncture can increase the levels of the neurotransmitter acetylcholine in the lacrimal glands of rabbits with a dry eye model, thereby promoting the activity of lacrimal gland columnar epithelial cells and increasing tear secretion [4]. This evidence suggests that time-specific acupuncture can improve tear film stability and restore the ocular surface microenvironment at multiple levels.

6.4 Regulation of Circadian Rhythms

Infrared thermal imaging studies have shown that after acupuncture at the "Kaihe Shu" acupoint, temperature changes around the eyes exhibit patterns corresponding to the solar terms [7]. This phenomenon suggests that time-specific acupuncture may exert its effects by regulating the body's circadian rhythms. The Theory of the Five Movements and Six Qi essentially describes the periodic rhythms of nature. Time-based acupuncture implements interventions within this rhythmic framework and may "regulate Qi" by "regulating time," ultimately restoring the body's synchrony with natural rhythms. The auxiliary regulatory effect of Five Elements music therapy combined with acupuncture also provides supporting evidence for this mechanism from the perspective of emotional-rhythmic interactions [27].

7. Issues and Outlook

7.1 Limitations of Current Research

Although time-based acupuncture based on the Five Phases and Six Qi theory has shown promising results in the treatment of dry eye, current research is far from comprehensive and has several notable shortcomings. In terms of the strength of evidence, the number of existing clinical studies is limited, and most are small-scale observational studies or individual case reports; there are virtually no large-sample, multicenter, randomized, double-blind trials in the strictest sense. In other words, what we see are mostly early indications that the approach "may be effective," but there is still a lack of sufficiently robust evidence to draw definitive conclusions. Secondly, even among these limited time-based acupuncture protocols, there is a lack of direct comparisons between them. For example, regarding methods such as the Longsha Opening and Closing of the Six Qi Acupuncture Technique, the Zi-Wu Flow Chart, and Gu's Tai Chi Opening and Closing Pivot Timing Chart, there is currently no clear consensus on which method is most suitable for which category of dry eye patients—whether those with predominantly aqueous deficiency, those with predominantly inflammatory symptoms, or those with significant systemic symptoms. Delving deeper, even if we know that acupuncture is effective, we are still far from understanding exactly how it works. Most existing mechanism studies remain limited to measuring macroscopic indicators such as tear volume and inflammatory factors; as for which molecular pathways acupuncture actually influences and which specific targets it acts upon, these deeper questions remain largely unexplored. Furthermore, the Theory of the Five Movements and Six Qi itself faces a "translation" dilemma. This theory employs abstract concepts

such as the Ten Heavenly Stems, Twelve Earthly Branches, annual cycles, and guest qi. Transforming these into quantifiable, measurable, and verifiable variables within a modern scientific framework presents a significant challenge. Without resolving this issue, it will be difficult to engage in dialogue with international peers using the language of modern science. From a clinical practice perspective, existing principles for acupoint selection are largely based on individual practitioners' experience, lacking systematic data mining to uncover underlying patterns [28]; simultaneously, attempts to apply emerging acupuncture techniques—such as Yi-Yi Umbilical Acupuncture—in the treatment of dry eye are still in their infancy and are far from mature [29]. These factors remind us that, although the prospects are promising, the road ahead is long, and more researchers are needed to diligently fill these gaps.

7.2 Future Research Directions

Looking ahead, research on time-segmented acupuncture for dry eye based on the Five Movements and Six Qi theory can be further explored in the following directions: First, conduct rigorously designed multicenter randomized controlled trials to establish high-level evidence-based findings. Second, utilize techniques such as systems biology, metabolomics, and neuroimaging to thoroughly elucidate the multi-target mechanisms of action of time-segmented acupuncture in treating dry eye. Third, explore the establishment of a dry eye classification and treatment system based on the Five Movements and Six Qi theory to achieve an upgrade in personalized diagnosis and treatment from "differential diagnosis and treatment" to "differential movement (qi) diagnosis and treatment." Fourth, strengthen research on the patterns of acupoint selection guided by the Five Movements and Six Qi theory to optimize clinical protocols for time-based acupuncture [28]. Fifth, promote dialogue and integration between TCM chronobiology and modern chronobiology to provide a more solid scientific foundation for time-based acupuncture.

8. Conclusion

Time-based acupuncture, grounded in the theory of the Five Movements and Six Qi, represents a significant clinical application of TCM time medicine in ophthalmology. Approaches such as the Longsha Opening-Closing Six Qi Acupuncture Method, the Zi-Wu Flow and Distribution Acupuncture Method, and Gu's Tai Chi Opening-Closing Pivot Timing Chart have demonstrated unique advantages in the treatment of dry eye, with clinical studies and mechanistic investigations preliminarily confirming their efficacy and scientific validity. Research in this field not only provides new approaches and methods for the treatment of dry eye but also serves as a model for the modernization of TCM time medicine. In the future, sustained efforts are needed in accumulating evidence-based data, conducting in-depth exploration of mechanisms, and offering modern interpretations of the theory to advance time-based acupuncture based on the Five Movements and Six Qi theory from empirical medicine toward evidence-based medicine, thereby better serving the clinical needs of patients with dry eye.

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