



Geographical Characteristics and Traditional Chinese Medicine Strategies for Chronic Pharyngitis in Jiangxi: An Etiological and Therapeutic Analysis

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Abstract

Background: Chronic pharyngitis, a prevalent upper respiratory inflammatory condition, significantly impairs quality of life due to its high incidence and persistent symptoms such as throat pain, dryness, and obstruction. Modern medical approaches, including anti-inflammatory and antiviral therapies, often provide inconsistent efficacy and require prolonged use, highlighting the need for more sustainable solutions. Despite the established advantages of Traditional Chinese Medicine (TCM) in managing chronic pharyngitis through holistic and personalized methods, there remains a notable research gap regarding region-specific studies in Jiangxi, an area defined by its distinctive climatic and dietary patterns. **Objective:** This study systematically investigates the impact of Jiangxi's unique environmental and lifestyle factors, such as its humid climate and spicy, sweet dietary habits, on the pathogenesis of chronic pharyngitis. Based on this analysis, we propose a tailored TCM framework for its prevention and treatment. **Conclusion:** By integrating regional characteristics with TCM theory, this study provides a theoretical foundation for applying the TCM principle of “customizing treatment to individual, time, and locality” in Jiangxi. The findings are expected to enhance clinical efficacy and inform future region-specific TCM interventions for chronic pharyngitis.

Keywords

Chronic pharyngitis
Jiangxi
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Traditional Chinese Medicine
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Prevention and treatment
Syndrome differentiation
Climate and health

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1. Introduction

Chronic inflammatory disorders of the upper aerodigestive tract pose a substantial challenge to global healthcare systems. Chronic pharyngitis, a prevalent condition defined by persistent inflammation of the pharyngeal mucosa, submucosa, and associated lymphoid tissues, exemplifies this burden. Current estimates indicate that the disease affects approximately one-third of the population worldwide ^[1,2]. Patients frequently present with a constellation of debilitating symptoms, including throat obstruction, pain, pruritus, dryness, burning sensations, and persistent dry cough, which collectively exert a profound negative impact on daily functioning and psychological health ^[1-3]. Conventional management strategies, predominantly reliant on anti-inflammatory, antiviral, or anti-anxiety medications, often yield suboptimal results. These treatments typically require prolonged and repeated administration, are characterized by significant inter-individual variability in response, and fail to provide consistent, long-lasting relief, highlighting a critical unmet need in patient care ^[4,5].

Amidst the limitations of conventional therapy, Traditional Chinese Medicine (TCM) has emerged as a prominent and well-regarded complementary approach for chronic pharyngitis, known in TCM as slow throat obstruction “Màn Hóu Bì”. Substantial evidence from clinical studies and meta-analyses increasingly supports the efficacy of TCM protocols, demonstrating not only significant symptom improvement but also lower recurrence rates and a favorable safety profile compared to standard Western treatments ^[6,7]. This evidence positions TCM as a valuable therapeutic alternative. Nevertheless, a comprehensive scientific understanding of its mechanisms of action and the development of standardized, context-specific application guidelines, particularly tailored to distinct geographical populations, remain imperative and insufficiently addressed research priorities.

The therapeutic framework of TCM is fundamentally guided by “treatment based on syndrome differentiation” *Biàn Zhèng Lùn Zhì*, which intrinsically advocates for the “customizing treatment to individual, time, and locality” *Sān Yīn Zhì Yí* principle, customizing interventions according to individual constitution, temporal factors, and geographical environment ^[8]. The

influence of regional variations in climate, diet, and lifestyle on disease etiology and phenotypic expression is increasingly acknowledged. Research on related conditions, such as Laryngopharyngeal Reflux (LPR), has demonstrated that geographical and cultural contexts can significantly shape clinical presentations and therapeutic outcomes ^[9,10]. Jiangxi Province, situated in the humid subtropical region of South China, possesses distinct environmental and cultural attributes, notably a pervasive damp-hot climate and a deeply ingrained culinary habit of consuming pungent and spicy foods. These unique regional characteristics are clinically theorized in TCM to predispose the local population to chronic pharyngitis, potentially manifesting through a specific pathogenic pattern centered on “dampness-heat” (*Shī Rè*) ^[11,12].

Despite the logical connection between regional factors and disease patterns, a significant scholarly void persists. There is a conspicuous absence of systematic epidemiological and theoretical research dedicated to elucidating the regional peculiarities of chronic pharyngitis within Jiangxi. While bibliometric analyses have effectively charted the global research landscape for gastroesophageal reflux disease (GERD) and LPR, no study has specifically focused on the nexus of chronic pharyngitis, TCM syndrome evolution, and the unique socio-ecological milieu of Jiangxi ^[13,14]. Previous investigations into chronic laryngitis have identified associations with etiological factors like bacterial biofilms and systemic comorbidities, yet an integrative analysis that synthesizes local TCM theory with region-specific predisposing factors is currently lacking.

Consequently, this study is designed to address this identified gap. A theoretically-grounded clinical analysis focusing exclusively on Jiangxi Province was provided. By synthesizing available clinical insights and core TCM principles, this work seeks to systematically delineate the regional predispositions, causative factors, and characteristic TCM syndrome patterns of chronic pharyngitis in this locale. The ultimate objective is to formulate a tailored, evidence-informed TCM strategy for prevention and treatment, thereby operationalizing the TCM tenet of “considering geographical conditions” into tangible and effective clinical practice for the benefit of the local population.

2. Analysis of the association between regional characteristics of Jiangxi and the pathogenesis of chronic pharyngitis

2.1. Climatic factors – “dampness-heat steaming” as an external pathogen

The distinct subtropical humid monsoon climate of Jiangxi Province plays a pivotal role in shaping local disease patterns, particularly chronic pharyngitis. During the extended summer and the plum rain season, the region experiences persistent high temperatures coupled with excessive humidity. This environmental “dampness-heat” constitutes a significant external pathogenic factor in Traditional Chinese Medicine (TCM). From a TCM patho-mechanism perspective, external dampness readily encumbers the Spleen, the organ responsible for transformation and transportation, leading to its functional impairment^[15]. This dysfunction results in the internal accumulation of fluid, which congeals into phlegm. This turbid phlegm then tends to ascend along the meridians to harass the throat, manifesting as swelling, a sensation of obstruction, and excess mucus^[16]. Modern research corroborates this, indicating that dampness-heat environments can exacerbate inflammatory responses and potentially disrupt mucosal immunity, providing a biomedical parallel to this TCM concept^[14,17].

Conversely, the autumn and winter seasons introduce another set of challenges. The lingering summer heat in autumn, known as the “Indian Summer” or “Autumn Tiger,” brings about warm-dryness (Wēn Zào), while winter is characterized by cold-dryness (Hán Zào). These alternating warm-dryness conditions are intrinsically predisposed to consume and hurt Lung Yin, the Yin aspect of the Lung system responsible for moistening the respiratory tract^[9]. As the throat is considered the gateway of the Lungs, a deficiency of Lung Yin directly leads to a loss of moisture and nourishment in the throat, giving rise to the characteristic symptoms of dryness, itching, and a dry, hacking cough^[18]. This Yin deficiency state can also render the laryngeal mucosa more vulnerable to other irritants^[10].

2.2. Dietary factors – “pungent-sweet rich flavors” as an internal cause

Dietary habits in Jiangxi, most notably the prominence of pungent and spicy flavors in Gan cuisine, represent a

major internal etiological factor. The long-term and often excessive consumption of such foods, which possess warm and dispersing properties in TCM terminology, tends to promote internal heat and injure bodily fluids (Yin)^[8]. This process directly “scorches” the vessels and collaterals supplying the throat, leading to pain, redness, and a burning sensation^[7]. Furthermore, a regional preference for greasy, fatty, and sweet foods (e.g., various braised and stewed dishes) further contributes to the internal generation of dampness and heat. These dietary choices impede Spleen function, fostering the production of turbid phlegm, which complicates the clinical picture of chronic pharyngitis^[4].

Compounding these dietary issues is the prevalent local culture of smoking and alcohol consumption. In TCM theory, both tobacco and alcohol are classified as acrid, hot, and turbid substances. They act as direct irritants to the delicate laryngopharyngeal mucosa, significantly aggravating existing inflammation and serving as crucial triggers and exacerbating factors for symptom flare-ups^[2,3]. Research on laryngopharyngeal reflux (LPR) has shown that similar irritants can compromise mucosal integrity, and the symptom overlap with chronic pharyngitis suggests a possible shared pathway of mucosal vulnerability^[19,20].

2.3. Lifestyle and occupational factors

Certain professions within Jiangxi contribute to the high prevalence of chronic pharyngitis through mechanical strain. Individuals in occupations requiring extensive voice use, such as teachers and sales personnel, are at particular risk. Prolonged and often improper phonation places a continuous strain on the laryngeal structures, leading to the TCM-defined pattern of Qi and Yin deficiency through chronic over-exertion, which weakens the body’s defensive and nourishing capacities^[21,22]. This makes the throat more susceptible to pathogenic factors.

Modern lifestyles introduce additional risk factors. Frequent movement between air-conditioned environments and the hot, humid outdoors creates significant thermal stress and sudden temperature changes, which can challenge the body’s adaptive capacity (Zheng Qi). Moreover, chronic sleep deprivation and irregular daily routines, common in contemporary society, are understood in TCM to deplete the fundamental Qi and

weaken the body's constitution. This overall decline in righteous Qi lowers resistance against external pathogens, making individuals more prone to recurrent and lingering throat infections and inflammation ^[23,24].

3. Discussion on TCM pathomechanisms based on the regional characteristics of Jiangxi

Building upon the regional predisposing factors, the pathogenesis of chronic pharyngitis in Jiangxi can be conceptualized through a characteristic TCM pattern. The core pathomechanism is identified as “accumulation and binding of dampness-heat, accompanied by dual damage to Qi and Yin” (Shī Rè Yùn Jié, Qì Yīn Liǎng Shāng).

The disease manifestations are centered on the Lung, Spleen, and Stomach organ systems. TCM physiology posits that the “Lung opens into the nose and throat,” the “Stomach channel traverses the throat,” and the “Spleen is the source of phlegm production” ^[9]. Consequently, the external contraction of dampness-heat from the climate and the internal damage from improper diet primarily affect these three organs. The Spleen's failure in transportation due to dampness encumbrance leads to internal phlegm formation, while dysfunction of the Lung in dispersion and descent and Stomach heat ascending along its channel directly manifest as pathology in the throat ^[3,9].

Clinically, the disease progression often follows a recognizable pattern. In the initial or acute exacerbation phase, the presentation is predominantly one of “congestion and obstruction by dampness-heat” (Shī Rè Yōng È). This stage is marked by pronounced inflammatory signs such as burning pain and severe swelling in the throat, intense mucosal hyperemia, and the production of thick, tenacious sputum that is difficult to expectorate ^[7,20]. This mirrors the robust pathological excess resulting from the combined assault of external and internal pathogens.

As the condition progresses into the protracted or chronic phase, the persistent pathological factors induce a shift in the pattern. The pattern often evolves into “dampness-heat injuring Yin” (Shī Rè Shāng Yīn) or “dampness-heat complicated by blood stasis” (Shī Rè Jiā Yū). Here, the enduring heat pathogen consumes

and damages the body's Yin fluids, while the lingering dampness obstructs the channels and collaterals ^[15,19]. This pathomechanistic transformation clinically manifests with a higher prevalence of symptoms like chronic dryness, irritating cough, a persistent foreign body sensation (globus pharyngeus), dark red or purplish mucosal coloration, and hyperplasia of the lymphoid follicles ^[10,16].

In summary, the pathogenic evolution of chronic pharyngitis in the Jiangxi population can be systematically theorized. “Dampness-heat” serves as the initiating pathogen, triggered by the local climate and diet. The subsequent “consumption of Qi and Yin” constitutes the core pathological transition, resulting from the protracted struggle between the body's Zhèng Qì and these persistent pathogens. Finally, the chronic interplay between impaired Zhèng Qì, deficient Yin, and lingering pathogens leads to “phlegm and blood stasis binding together,” which forms the pathological root of the disease's recalcitrance and tendency to linger ^[2,14]. This conceptual framework provides a coherent TCM theoretical foundation for understanding and treating this regional health issue.

4. TCM prevention and treatment strategies for chronic pharyngitis in Jiangxi

4.1. Therapeutic principles

The treatment strategy for chronic pharyngitis in Jiangxi must be tailored to its core pathomechanism. The overarching therapeutic principles are: Clearing Heat and Resolving Dampness, Protecting Qi and Nourishing Yin, and Assisted by Unblocking Collaterals. A critical aspect of clinical practice is to accurately differentiate the relative severity and predominance of Dampness, Heat, Deficiency (Qi and Yin), and Blood Stasis in each individual case to ensure a precise and personalized treatment approach ^[3,25].

4.2. Syndrome differentiation and treatment

(1) For the Dampness-Heat Accumulation Pattern

The treatment should focus on clearing heat and resolving dampness to soothe the throat and alleviate pain. Modified classical formulas such as San Ren Tang (Three-Nut Decoction) or Gan

Lu Xiao Du Dan (Sweet Dew Toxin-Dispelling Elixir) are appropriate. Herbs specifically targeting the throat, like Platycodon Radix (Jie Geng), Glycyrrhizae Radix (Gan Cao), and Sophorae Tonkinensis Radix (Shan Dou Gen), can be added to enhance the efficacy^[8,26].

(2) For the Dampness-Heat Injuring Yin Pattern

The strategy should combine clearing heat and resolving dampness with nourishing Yin and benefiting the throat. Formulas such as Bai He Gu Jin Tang (Lily Bulb Decoction to Preserve the Metal) combined with Er Chen Tang (Two Matured Substances Decoction), or Sha Shen Mai Dong Tang (Adenophora and Ophiopogon Decoction) supplemented with Coicis Semen (Yi Yi Ren) and Lophatheri Herba (Dan Zhu Ye), can be effectively employed^[5].

(3) For the Qi Deficiency with Phlegm Congealing Pattern

The treatment aims to tonify Qi, strengthen the Spleen, resolve phlegm, and dissipate nodules. A combination of Bu Zhong Yi Qi Tang (Center-Supplementing and Qi-Boosting Decoction) and Ban Xia Hou Po Tang (Pinellia and Magnolia Bark Decoction) with modifications is often suitable for addressing both the root deficiency and the branch excess^[9].

4.3. Application of characteristic external therapies and Chinese patent medicines

External therapies can provide significant symptomatic relief and are highly suitable for local application. Methods such as herbal atomization inhalation, medicinal gargles, acupuncture-like throat therapy (“pecking” technique), and acupoint application can directly target the affected laryngopharyngeal region, reducing inflammation and discomfort^[21,23].

For convenience and adherence, specific Chinese patent medicines aligned with the local patterns are recommended. These include Qingre Qushi Granules for dampness-heat, Jinsang Liyan Pills for phlegm-dampness obstructing the throat, and Xuanmai Ganjie Granules for Yin deficiency with throat dryness^[4].

4.4. Prevention and health guidance based on

regional characteristics

4.4.1. Dietary therapy

(1) Spring and summer

Consume foods like Adzuki Bean and Coix Seed Porridge, soups with Smilacis Glabrae Rhizoma (Tu Fu Ling), and Mung Bean Soup to drain dampness and resolve toxicity.

(2) Seasonal Transition/After Spicy Food

Drink Honey and Honeysuckle Flower Tea or Snow Pear and Lily Bulb Porridge to clear heat and moisten dryness

4.4.2. Autumn and winter

Incorporate foods such as Water Chestnut (Bi Qi), White Radish, Tremella (Bai Mu Er), and Lotus Seed (Lian Zi) to nourish Lung Yin and moisten the throat^[24].

4.4.3. Lifestyle guidance

(1) Moderation in spicy food

Advise consuming spicy foods in moderation and pairing them with “cooling” ingredients like winter melon or bitter melon to counteract their pungent and drying nature.

(2) Dampness prevention

Ensure living spaces are well-ventilated and dehumidified to prevent external dampness from aggravating internal dampness

(3) Judicious use of air conditioning

Avoid direct exposure to cold air and minimize significant temperature differences between indoor and outdoor environments to reduce thermal stress on the body

(4) Emotional regulation

Encourage maintaining a calm and cheerful mood, as emotional stagnation and anger can transform into fire that flares upward to scorch the throat^[2,18].

5. Conclusion and future perspectives

In conclusion, this analysis delineates a clear conceptual framework for chronic pharyngitis within the Jiangxi population. The pathogenesis is intimately linked to the region’s characteristic humid-hot climate and a dietary pattern favoring pungent and sweet flavors. The core

TCM pathomechanism is identified as “dampness-heat” forming the primary pathogenic foundation, which frequently progresses to involve “dual deficiency of Qi and Yin” and the secondary pathological products of “phlegm and blood stasis binding together.”

This theoretical exploration underscores the indispensable value of the TCM principle of “customizing treatment to individual, timing, and locality”. For clinical practice in Jiangxi, this translates to a mandatory consideration of these regional determinants. The development and application of diagnostic assessments and management strategies must be tailored to the local context (Jiangxi), seasonal variations (seasons), and patient constitutions (individual) to achieve true personalized medicine and effective prevention.

Looking forward, the theoretical model proposed

herein requires empirical validation and further refinement. Future research should prioritize large-scale, prospective clinical epidemiological studies conducted within Jiangxi to objectively quantify the prevalence of the identified TCM patterns and correlate them with the regional factors discussed. Furthermore, building upon this localized understanding, dedicated efforts are warranted to develop and clinically evaluate novel, optimized herbal formulations and integrated treatment protocols that are specifically designed to address the unique “dampness-heat” etiology and “Qi-Yin deficiency” sequelae prevalent in this population. Such endeavors will bridge the gap between regional TCM theory and evidence-based practice, ultimately improving patient outcomes.

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Disclosure statement

The author declares no conflict of interest.

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