

# Exploring Prevention and Treatment of Obesity-Type Type 2 Diabetes Based on the “Unified Qi Circulation” Theory

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**Abstract:** The “Unified Qi Circulation” theory, pioneered by Huang Yuanyu (imperial physician of the Qing Dynasty), emphasizes the pivotal role of the ascending-descending flow of qi in maintaining health. Obesity-type type 2 diabetes mellitus (T2DM), classified as “consumptive thirst” or “spleen heat” in Traditional Chinese Medicine (TCM), is a prevalent metabolic disorder closely associated with insulin resistance and dyslipidemia, posing significant clinical prevention and treatment challenges. Chronic metabolic dysregulation exacerbates obesity, while obesity further aggravates glucolipid metabolic imbalances, creating a vicious cycle. This paper analyzes current epidemiological trends of obesity-type T2DM and the core tenets of the “Unified Qi Circulation” theory, underscoring the importance of qi dynamics in metabolic homeostasis. Proposing the three key pathogenic mechanisms of obesity-related T2DM from the perspective of traditional Chinese medicine: endogenous damp-heat from dietary excess; turbid lipids accumulation due to splenic dysfunction; and blood stasis obstructing collaterals from impaired liver-mediated regulation. The mechanisms corroborated by modern findings on insulin resistance and inflammatory responses. Therapeutically, we advocate the “Unified Qi Circulation” framework as the guiding principle, integrating interventions to clear heat, resolve dampness, drain turbidity; regulate the spleen-stomach pivot; and soothe liver qi to activate wood-phase vitality. This approach aims to restore harmonious qi flow and visceral coordination, offering novel strategies for preventing and treating obesity-type T2DM.

**Keywords:** Obesity, Type 2 diabetes mellitus, Unified Qi Circulation.

## 1. Introduction

With shifts in lifestyle and dietary habits, China’s diabetes prevalence continues to rise. At present, the number of people with diabetes in our country has exceeded 140 million. Type 2 diabetes mellitus (T2DM) constitutes the predominant form, with its development closely linked to obesity, hypertension, dyslipidemia, and other cardiovascular conditions—where overweight and obesity serve as primary risk factors [1]. Studies show diabetes prevalence among Chinese overweight and obese populations has reached 12.8% and 18.5% respectively. Thus, healthy dietary and lifestyle modifications represent the most proactive and effective approach to preventing diabetes onset and progression.

In Traditional Chinese Medicine, obesity-type T2DM is classified under conditions such as “consumptive thirst”, “spleen heat” and “lung consumption” [2]. The discipline posits that obese individuals frequently exhibit phlegm-dampness constitutions. Dietary excess of rich, sweet, and fatty foods impairs splenic transport and transformation, disrupting fluid metabolism. Accumulated fluids generate phlegm-dampness, which may transform into pathogenic heat, manifesting as consumptive thirst. Obesity development fundamentally relates to dysfunction in visceral and meridian ascent-descent dynamics, coupled with dysregulation of qi-blood-fluid metabolism. The “Unified Qi Circulation” theory, grounded in TCM’s holistic framework, conceptualizes qi circulation as forming a dynamic system centered on the spleen-stomach pivot—where liver wood ascends leftward and lung metal descends rightward, making unobstructed qi movement essential. Drawing upon this theoretical foundation, this paper explores preventative and therapeutic approaches for obesity-type T2DM, enhancing patients’ self-management awareness regarding glycemic

control while providing clinical insights.

## 2. Analysis of the Unified Qi Circulation Theory

Ancient scholars recognized nature’s generative essence as emerging from the ascending-descending dynamics of heaven-earth, yin-yang, and form-qi, as recorded in “Suwen·Chapter on Cosmic Origins”: “Qi manifests in the heavens, form materializes on earth; their dynamic interplay generates all things” [3]. Humans, as natural products unified with cosmic rhythms, likewise depend on qi movement for visceral functions and blood circulation. Qing Dynasty physician Huang Yuanyu established the “Unified Qi Circulation” theory in Heart Transmissions of the Four Sages, centering on the doctrine “Earth pivots the four phases; unified qi flows cyclically.” Here, the “unified qi”—rooted in spleen-stomach qi—swirls centrifugally from the middle jiao, sustained by spleen’s ascent and stomach’s descent. The “four phases” symbolize yin-yang’s vertical movements. The Earth is divided into Ji and Wu, The Ji Earth rising. The ying ascending and turn into yang, while transforms into Wood-Fire. Wu Earth descending, the yang descending and turn into yin, while condenses into Metal-Water [4]. This holistic framework positions the spleen-stomach as the pivotal axis enabling cyclic qi flow through organ networks: Liver Wood, Heart Fire, Lung Metal, and Kidney Water. Analogous to a pumping waterwheel, the spleen-stomach serve as the central dynamo, channeling qi upward and downward to permeate the corporal terrain. This perpetual circulation harmonizes qi-blood dynamics. Consequently, balanced qi movement proves essential—its coordinated rhythm sustains vital activities. Huang Yuanyu’s theory offers seminal insights for preventing obesity-type T2DM by restoring this cyclical paradigm.

### 3. Analyzing the Etiology and Pathogenesis of Obesity-Type T2DM based on “Unified Qi Circulation” Theory

#### 3.1 Excessive Consumption of Rich Foods Leading to Endogenous Damp-Heat

“The Huangdi Neijing states”: “This disease arises from rich foods—such people habitually consume sweet, greasy delicacies. Grease generates internal heat; sweetness induces abdominal fullness. Thus, their qi overflows upward, transforming into consumptive thirst” [5]. Excessive intake of fatty-sweet foods congests the middle jiao, causing splenic hypofunction that prevents nutrient transformation. These stagnate as “turbid lipids” deposited in blood vessels and cutaneous tissues, manifesting as obesity. Prolonged accumulation incubates phlegm-heat that ascends as consumptive thirst. “Suwen·Treatise on Impediment notes”: “Double the dietary intake injures the intestines and stomach” [6]. Treatise on the Spleen and Stomach elaborates: “Dietary excess injures the spleen, causing turbid earth-qi to sink downward, stagnate and generate heat”, indicating chronic overeating weakens spleen-stomach function, triggering pathology. “Cause and Pulse Treatment: Internal Injury Three Matches”: “Persistent accumulation of rich food generates dampness evolving into heat. Fumigating the lung causes upper wasting; injuring the stomach induces middle wasting; flowing downward produces lower wasting” [7]. Damp-heat pathogenesis exhibits organ-specific manifestations: fumigation of the lungs by ascending damp-heat scorches lung fluids, impairing moisture distribution, manifested as “excessive thirst and polydipsia”; The stomach is moist and does not tolerate dryness, damp-heat stagnating in the middle jiao transforms into fire, hyperactivating stomach digestion, manifested as: “polyphagia with rapid hunger”; The nature of dampness is downward, damp-heat sinking damages kidney yin, disrupting qi-opening/closing, manifested as “polyuria with chyluria”, while impaired qi-transformation of kidney essence causes water accumulation and edema. TCM theory identifies the five elements of the spleen belong to the earth, which is the granary root and source of qi-blood production. Dietary excess paralyzes its pivotal function, accumulating dampness in the middle jiao. Chronic stagnation generates heat, producing endogenous damp-heat that culminates in consumptive thirst, consequently increasing obesity-type T2DM incidence.

#### 3.2 Impaired Spleen Transportation Leading to Turbid Lipid Accumulation

Huang Yuanyu’s qi monism posits central qi as the driving force of human qi movement, which is a four-organ circulation pattern centered around this pivot, where systemic qi circulation fundamentally relies on the spleen-stomach situated central earth. “Lingshu·Chapter on Visceral Constitution states”: “A robust spleen ensures visceral resilience against damage; a fragile spleen predisposes to consumptive disorders” [8], confirming consumptive thirst pathogenesis directly links to splenic integrity and transformative function. Li Dongyuan’s “Treatise on the Spleen and Stomach” elaborates: “Spleen-stomach deficiency fails to uplift yang qi... grain qi sinks while yin-fire surges” [9]. Spleen deficiency is lost in ascending to clearing, causing

nutrient-laden qi to degenerate into turbid dampness. The deficient spleen cannot restrain lower-jiao yin-fire, which scorches lung metal, burns stomach earth, and depletes kidney yin, aligning with obesity-type diabetes’ hallmark pattern of “spleen deficiency as root cause, dryness-heat as secondary manifestation”. “Suwen·Sacred Canon” declares: “The spleen-stomach serves as the granary official governing five-flavor distribution”—as yin earth and the acquired foundation, it transforms nutrients to sustain physiological functions while regulating fluid metabolism and maintain the balance of water and liquid metabolism. Fundamentally, obesity-type T2DM arises from dietary excess or alcohol abuse causing turbid lipid accumulation and impaired splenic transportation. Nutrients fail conversion into qi-blood for systemic circulation, instead accumulating as pathogenic dampness that further damages spleen qi. Spleen qi deficiency stagnates mid-jiao qi dynamics, disrupting ascent-descent harmony—manifesting as “failure of clear yang ascension” manifested as dizziness, fatigue and “failure of turbid yin descent” manifested as abdominal distension, loose stools. This three-jiao dysregulation impairs qi transformation, disrupts fluid distribution, congests vessels, and causes fluid retention that congeals into phlegm-dampness accumulation. This process induces obesity and ultimately systemic metabolic disorder.

#### 3.3 Impaired Hepatic Regulation and Stasis Obstructing Collaterals.

Diabetes onset intimately correlates with liver dysfunction, as stated in “Lingshu·Five Transformations”: “Rage propels qi counterflow, accumulating thoracic heat... Heat consumes flesh, manifesting as consumptive disorders” [10]. indicating emotional disturbances initiate diabetes pathogenesis. Traditional Chinese Medicine identifies the liver governing unconstrained drainage, embodying wood-phase properties that regulate metabolic functions—including spleen ascent and stomach descent. Proper hepatic drainage ensures balanced qi-blood circulation and emotional stability; whereas constraint or rebellion manifests as irritability and volatility. “Liver constraint overwhelming spleen earth” disrupts mid-jiao pivot function, causing nutrient transport failure, meridian-vessel congestion, and pathological transformation into damp-heat that consumes fluids—exemplifying the “stagnant wood phase further congesting earth element function” mechanism. Clinical presentations include: splenic manifestations such as anorexia, loose stools, warmth-seeking and lingering abdominal; pain alongside hepatic constraint signs such as hypochondriac distension, epigastric oppression, depression [11]. “Case Records as Clinical Guide” observes: “Chronic melancholy ignites endogenous fire—this underlies grave consumptive thirst pathology” [12]. Emotional agitation impairs liver drainage, leading to unresolved wood-phase dysfunction that cascades into splenic purification-turbidity dysregulation. Resultant qi-blood stasis accumulates phlegm-turbidity, forming “pathological lipids” fundamental to obesity-type T2DM. Prolonged constraint generates pathogenic fire: flaming upward to scorch lung-stomach yin, causing Upper or Middle Wasting Syndromes with polydipsia and polyphagia; descending to plunder kidney yin triggering Lower Wasting Syndrome with polyuria and proteinuria. Thus, psychosocial factors critically govern diabetes progression.

#### 4. Contemporary Medical Interpretation of Obesity-Type T2DM Pathogenesis.

Modern medicine attributes obesity development to multifaceted interactions of genetic predisposition, lifestyle factors, and environmental influences. Obesity-type type 2 diabetes mellitus (T2DM), a critical metabolic disorder, its core pathogenesis involves insulin resistance and  $\beta$ -cell dysfunction, where chronic low-grade inflammation, lipotoxicity, and impaired glucose metabolism driven by obesity serve as primary pathological triggers. Qing Dynasty famous doctor Huang Yuanyu's theory of "Unified Qi Circulation" illuminates these mechanisms through TCM's perspective of qi transformation, positing the spleen-stomach as the pivotal axis within an endlessly cycling balanced dynamic: liver ascending with spleen, lung descending with stomach, and heart-kidney interaction. Middle-jiao congestion disrupts this ascent-descent rhythm, impairing qi-blood-fluid distribution and generating endogenous phlegm-dampness-stasis, mechanistically aligned with modern insulin resistance and glucolipid metabolic dysregulation. Obese individuals commonly develop splenic hypofunction due to dietary indiscretion and sedentary habits, stagnating middle-jiao qi dynamics. Nutrients failing proper transformation coalesce into damp-turbidity that permeates the body as "turbid lipid accumulation". That is, what modern medicine calls adipose tissue hyperplasia. Chronic damp-turbidity generates heat, further impeding liver drainage to intensify qi stagnation—culminating in a "liver constraint with spleen deficiency" pattern. Impaired liver regulation disrupts bile excretion (paralleling insulin signaling dysfunction), while failed splenic nutrient distribution elevates blood glucose (manifesting insulin resistance). Sustained coexistence of phlegm-dampness, stasis, and heat consumes qi-yin, ultimately triggering consumptive thirst. Modern studies confirm obesity-linked adipocytokines (such as TNF- $\alpha$ , IL-6) interfere with insulin signaling [13], resonating with the "phlegm/dampness/stasis/heat" TCM pathogenesis.

#### 5. Integrated Therapeutic Approach for Obesity-Type T2DM Based on the "Unified Qi Circulation" Theory

##### 5.1 Clearing Heat, Resolving Dampness, and Draining Turbidity to Unblock Visceral Functions

Chronic dietary indiscretion with excessive intake of rich, fatty foods commonly induces spleen-stomach congestion and endogenous damp-heat. Affected patients typically present with robust physique, polyphagia with rapid hunger, bitter sticky taste, and yellow-greasy tongue coating. Therapeutic strategy prioritizes heat-clearing and dampness-resolving, supported by modern evidence demonstrating that herbs in this category regulate gut microbiota, improve insulin resistance, and reduce triglyceride levels, thereby alleviating metabolic disorders. For example: Banxia Xie Xin Decoction: Effectively lowers blood glucose, increases gut microbiota diversity, modulates microbial structure, and improves islet function with insulin resistance [14]. Fangji Fuling Decoction: Tonifies qi to activate the spleen and unblock yang for diuresis in diabetes treatment [15]. Common clinical

selections include bitter-cold and heat-clearing herbs such as *Coptis chinensis*, *Scutellaria baicalensis*, *Phellodendron amurense*, *Gardenia jasminoides*, combined with dampness-resolving agents such as *Atractylodes lancea*, *Eupatorium fortunei*, *Agastache rugosa*. Studies confirm that berberine — active constituent in *Coptis* and *Phellodendron* — activates the adenosine monophosphate-activated protein kinase, which is signaling pathway to enhance glucose uptake and fatty acid oxidation, thereby reducing blood glucose and adiposity. Simultaneously, it modulates gut microbiota composition, decreases lipopolysaccharide release, and attenuates chronic inflammation with insulin resistance [16]. Turbidity-draining herbs like *Rheum palmatum* and *Mirabilium* enhance intestinal motility to expel stagnant food residues, reduce excessive sugar-lipid absorption, and improve glucose metabolism via the gut-pancreatic axis. Clinical trials demonstrate that combining classical formulas, such as Gegen Qinlian Decoction and Dachaihu Decoction, with conventional hypoglycemic therapy significantly reduces fasting glucose, HbA1c, BMI, and lipid profiles while improving TCM syndrome scores with favorable safety. Gegen Qinlian Decoction both clears heat-dampness and uplifts spleen-stomach yang, clinically proven to markedly decrease fasting glucose, HbA1c, and HOMA-IR in obese T2DM patients [17]. Furthermore, this approach modulates adipokines (e.g., leptin, adiponectin), ameliorates hepatic fat metabolism, and corrects glucolipid metabolic disturbances, providing theoretical and practical foundations for TCM intervention in obesity-type T2DM.

##### 5.2 Regulating the Spleen-Stomach to Restore Pivotal Movement

The core therapeutic strategy for obesity-type type 2 diabetes mellitus (T2DM) involves revitalizing the spleen-stomach's transformative function and restoring its pivotal ascent-descent dynamic. This ensures unobstructed middle-jiao qi movement, facilitating liver ascent and lung descent, thereby preventing prolonged qi stagnation from transforming into fire and reducing pathological byproducts like phlegm-turbidity, blood stasis, and dampness. Treatment emphasizes regulating qi dynamics by providing pathways for pathogenic factors to exit, adopting the principle of "treating through unblocking" to support yin-fluid transportation, achieving spleen fortification, stomach activation, dampness resolution, and phlegm elimination. As "Suwen·Grand Treatise on Subtle Essentials states": "Ascent-descent and entry-exit exist within every functional entity" [18], highlighting that harmonious qi movement is essential for normal visceral activities and metabolism. Classical formulas include Xiangsha Liujunzi Decoction and Shenling Baizhu Powder. Xiangsha Liujunzi Decoction tonifies qi, fortifies the spleen, moves qi, and transforms phlegm. Its components—Codonopsis, *Atractylodes*, and *Poria* to strengthen spleen qi, while Citrus peel, *Pinellia*, *Aucklandia*, and *Amomum* regulate qi and harmonize the stomach. Modern pharmacological studies confirm its ability to modulate gastrointestinal motility, improve gut microbiota, and reduce blood glucose and lipid levels. Shenling Baizhu Powder builds upon Sijunzi Decoction by adding spleen-strengthening and dampness-percolating herbs like *Dioscorea*, Nelumbo seed, and Coix seed, enhancing nutrient absorption and distribution. Clinically, it reduces body weight,

improves glycemic control, exerts antioxidant and immunomodulatory effects, and optimizes probiotic composition in gut microecology [19-20]. Professor Ni Qing identifies spleen-stomach deficiency as the root cause of obesity-type T2DM, with dampness, blood stasis, and phlegm-turbidity as secondary manifestations. His clinically validated protocol prioritizes spleen fortification supplemented with dampness elimination and blood activation [21]. Professor Tong Xiaolin attributes the core pathogenesis to “internal heat with abdominal fullness and turbid lipids”, achieving significant efficacy with heat-clearing and turbidity-draining formulas like Jiangtang Tiaozhi Formula. Sang Jiajia [22] employs spleen-strengthening and turbidity-resolving tuina techniques, applying manual stimulation to abdominal regions and spleen meridian acupoints, to tonify spleen qi, resolve phlegm, and activate blood flow. Additionally, acupuncture targeting Zusanli (ST36), Sanyinjiao (SP6), Zhongwan (CV12), and Pishu (BL20) demonstrates efficacy in activating spleen-stomach function, uplifting clarity, resolving turbidity, and eliminating dampness-phlegm.

### 5.3 Smoothing Liver Qi to Regulate Wood-Phase Ascending Dynamics.

Emotional disturbances constitute significant contributors to obesity-type T2DM. “Lingshu·Chapter on Visceral Constitution” first established the liver’s critical role in consumptive disorders: “A fragile liver predisposes to consumptive thirst susceptibility”, guiding therapeutic focus on dredging liver qi, nourishing liver blood, and harmonizing qi dynamics [23]. Modern societal shifts, including disrupted circadian rhythms, sedentary lifestyles, and occupational stress, foster chronic emotional dysregulation, precipitating liver qi constraint and drainage dysfunction. This often manifests as “constrained wood phase transversely invading stomach earth”, overwhelming spleen function. Contemporary clinicians uniquely apply liver-focused strategies with notable efficacy. Professor Lü Renhe [24] emphasizes the liver-consumptive thirst nexus, clinically modifying Chaihu Shu Gan Powder and Si Ni Powder with ingredients like Citrus medica 10g, Citrus sarcodactylis 10g, Perilla stem 10g, Cyperus rhizome 10g, and Curcuma root 10g to alleviate anxiety and depression, regulate gastrointestinal function, and synergize liver-soothing with spleen-fortification. Professor Zhang Yuqin [25] achieves glycemic stabilization through liver constraint resolution, validating emotional modulation in diabetes management. Wu Chang’an [26] employs Bupleurum, Citrus aurantium, and Cyperus to course liver qi, combined with Paeonia alba, Curcuma, Poria, Cassia seed, Scrophularia, Rehmannia, and Glycyrrhiza, significantly reducing FPG, 2hPG, and HbA1c. Soothing the liver and regulating qi, regulating the ascend and divergence of wood qi. This approach reactivates the leftward ascending pathway of “unified qi circulation”, ameliorating hyperglycemia and obesity secondary to liver constraint while improving psychological well-being and quality of life.

### 5.4 Comprehensive Regulation for Restoring Unified Qi Circulation.

The “Unified Qi Circulation” theory, originating from Huang Yuanyu’s “Heart Transmissions of the Four Sages”,

emphasizes the ascending-descending and entry-exit dynamics of human qi as an integrated, dynamically balanced system. In managing obesity-type type 2 diabetes mellitus (T2DM), singular therapeutic approaches often fail to fully address its complex pathogenesis, necessitating holistic strategies to restore physiological “unified qi circulation.” Obesity-type T2DM involves dysfunction across multiple organs such as spleen, liver, and kidneys, causing qi dysregulation and internal obstruction by phlegm, dampness and blood stasis. Thus, the treatment should integrate heat-clearing and dampness-resolving, spleen-fortifying and middle-jiao activating, liver-soothing and qi-regulating, blood-activating and collateral-dredging strategies to ensure orderly spleen-stomach ascent-descent, unobstructed liver qi flow, and consolidated kidney qi—collectively reinstating unified qi circulation. Modern medicine recognizes obesity-type T2DM’s links to insulin resistance, chronic low-grade inflammation, and gut dysbiosis, paralleling TCM’s unified qi circulation theory: splenic hypofunction corresponds to insulin resistance, while liver constraint aligns with neuroendocrine dysregulation.

Clinical interventions therefore combine lifestyle modifications (dietary adjustment, physical activity), hypoglycemic agents, and TCM formulas to synergistically regulate qi dynamics and enhance metabolism. Given heterogeneous patient constitutions, disease durations, and complications, treatment employs pattern differentiation-based strategies: prioritizing spleen-strengthening and dampness-resolving for phlegm-dampness predominance; emphasizing liver-soothing and blood-activation for qi stagnation-blood stasis; and incorporating kidney-warming for chronic kidney involvement. Furthermore, adjunctive non-pharmacological therapies—acupuncture, tuina, qigong, further promote qi-blood circulation and consolidate therapeutic efficacy.

## 6. Summary

Obesity-type type 2 diabetes mellitus (T2DM), a critical metabolic disorder, features complex pathogenesis involving genetic predisposition, environmental influences, lifestyle factors, and multisystem metabolic dysregulation. This paper systematically examines its etiology, pathogenesis, and prevention/treatment strategies through the lens of TCM’s “Unified Qi Circulation” theory, proposing an integrated and personalized intervention model aligned with modern medical research.

The comprehensive regulatory approach based on this theory resonates with TCM’s holistic perspective and pattern differentiation principles while harmonizing with contemporary understanding of obesity-type T2DM. Clinically, prioritizing patient compliance through health education and regular follow-ups helps establish sustainable lifestyles to prevent relapse. Concurrently, slow-acting formulations like paste preparations and pills may gradually optimize constitutional states, ultimately achieving “unobstructed qi movement and orderly metabolism.” Collectively, the “Unified Qi Circulation” framework provides a holistic and dynamic equilibrium paradigm for obesity-type T2DM management; its integration with modern medicine holds promise for innovating metabolic disease

therapeutics. Future research should elucidate molecular mechanisms underlying this theory and refine integrated intervention protocols to enhance clinical efficacy.

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