DOI: 10.66069/ojspub.20542215

Analysis of Professor Liu Zhibin's Academic Experience in Acupuncture and Moxibustion

San Lin Aung, Weigang Wang*

Shaanxi University of Chinese Medicine, Xianyang 712046, Shaanxi, China
**Correspondence Author*

Abstract: ***Professor Liu Zhibin is the academic leader of acupuncture, moxibustion, and tuina of the Shaanxi school. He has been deeply engaged in the clinical practice, teaching, and scientific research of acupuncture, moxibustion, and tuina for over 40 years. His academic work is rooted in the classical theories of the jingjin (muscle region) and gudu (bone measurement) from the Inner Canon of the Yellow Emperor, integrated with modern fascial anatomy and neuroscience, forming four core academic systems: "fascia-related theory," "brain-gut co-regulation," "olfactory-collateral brain resuscitation," and "bone-point direct reaching." Professor Liu has pioneered three original distinctive therapies: the bone-touching needling method, the scalp hairline micro-needle system, and the olfactory three-needle therapy. He has also established a point-selection system based on the principles of "taking pain as the acupoint," "back-mu point pairing," and "treating both root and branch." Clinically, he has developed stratified pattern differentiation and treatment protocols combining acupuncture and tuina for neurodegenerative diseases (Parkinson's disease, Alzheimer's disease), spinal disorders (adolescent idiopathic scoliosis, sinew-related pain conditions), functional gastrointestinal disorders, and gynecological pain syndromes. A large number of animal experiments have elucidated the molecular mechanisms of acupuncture from perspectives such as ferroptosis, oxidative stress, the PI3K/Akt signaling pathway, and the brain-gut axis. Professor Liu's academic path of "honoring classics, integrating anatomy, emphasizing empirical evidence, and innovating methods" provides a replicable paradigm for modern acupuncture and moxibustion.***

Keywords: Liu Zhibin, Acupuncture and moxibustion, Bone-touching needling method, Olfactory three-needle therapy, Brain-gut co-regulation, Academic experience.

1. Introduction

Liu Zhibin, born in 1957 in Qian County, Shaanxi Province, is currently a second-level professor, chief physician, and doctoral supervisor at Shaanxi University of Chinese Medicine. He is a guiding teacher for the sixth batch of national veteran Chinese medicine experts' academic experience inheritance and a renowned Chinese medicine practitioner of Shaanxi Province. He has been deeply engaged in the clinical practice, teaching, and scientific research of acupuncture, moxibustion, and tuina for over 40 years and is the representative academic leader of acupuncture, moxibustion, and tuina of the Shaanxi school. His academic work is rooted in the Sanqin (central Shaanxi plain) context of Chinese medicine. He has been academically influenced by the national grandmasters Guo Chengjie and Yin Kejing, studied the Inner Canon of the Yellow Emperor, Thousand Golden Prescriptions, and other classic ancient texts, and carried out theoretical and needling innovations based on the traditional theories of bone measurement and jingjin combined with modern anatomy.

During his schooling, Liu Zhibin systematically completed the stepwise undergraduate, master's, and doctoral education in Chinese medicine, deeply cultivating the directions of acupoint anatomy and acupuncture mechanisms. Addressing the divergent interpretations of the "twenty-one segments" in the Gudu (bone measurement) chapter of the Spiritual Pivot throughout history, he reviewed ancient and modern medical texts, combined them with human cadaveric anatomy, corrected the traditional misunderstanding of vertebral counting, and proposed a new localization view that the twenty-one segments start from the 4th cervical vertebra and end at the 5th lumbar vertebra, thereby perfecting the anatomical localization theory of the back shu points [1].

In clinical practice, Liu Zhibin, based on the physiological characteristics of the jingjin and periosteum, pioneered three original distinctive therapies: the bone-touching needling method, the scalp hairline micro-needle system, and the olfactory three-needle therapy. All three needling methods have been validated by a large number of clinical controlled trials and animal experiments. Among them, the bone-touching needling method targets bone fissures and periosteal attachment points, relies on the fascia-zangfu correlation theory, and is widely used for various soft tissue pains and spinal disorders [2]. The scalp hairline micro-needle system relies on the characteristic of multiple meridians intersecting on the head, divides the anterior, lateral, and posterior hairline zones for point selection, and is clinically used for vascular dementia, migraine, insomnia, and gynecological dysmenorrhea [3]. The olfactory three-needle therapy targets the association between the olfactory pathway and the hippocampus, specifically intervening in neurodegenerative diseases such as Alzheimer's disease and vascular dementia [4].

Alongside his academic pursuits, Liu Zhibin has deeply explored Sun Simiao's medical scholarship, systematically organizing Sun's health-preserving thoughts, summarizing diagnostic and therapeutic approaches to health preservation from the multidimensional perspectives of diet, daily routine, and daoyin, thereby enriching the health preservation system combining acupuncture and herbs [5]. He has held administrative positions in universities and important roles in national acupuncture and moxibustion societies. He has trained master's and doctoral students as well as inheritance disciples year-round, led a number of provincial and ministerial-level scientific research projects, conducted molecular mechanism experiments on dementia, Parkinson's disease, and functional gastrointestinal disorders, and

published over 200 academic papers, forming an academic and clinical path of "honoring classics, integrating anatomy, emphasizing empirical evidence, and innovating methods."

2. Academic Thought Research

Based on the classical theories of jingjin, zangfu, and gudu from the Inner Canon of the Yellow Emperor, integrated with modern anatomy, neurology, and fascial theory, and relying on long-term clinical and animal experimental research, Liu Zhibin has gradually formed four core academic viewpoints: fascia as the foundation, brain-gut co-regulation, olfactory-collateral brain resuscitation, and bone-point direct reaching, constructing an academic system that integrates traditional theory with modern mechanisms.

2.1 Fascia-Related Theory: Perfecting the Mechanism of Acupuncture and Tuina

Liu Zhibin, integrating modern fascial anatomy, proposed the academic idea of "fascia-zangfu correlation" [6]. He believes that the systemic fascia of the human body forms a continuous connective tissue network, which serves as the modern material carrier of the jingjin theory. Fascia is rich in nerves and receptors. Mechanical imbalance, adhesion, and contracture of fascia can not only cause local musculoskeletal pain but also affect the function of internal organs through the fascial chain. The key to the effectiveness of the traditional bone-touching needling method and various tuina techniques is to stimulate the fascial points attached to the periosteum, release abnormal fascial tension, unblock meridians, and indirectly regulate the zangfu. Based on this theory, he perfected the theoretical connotation of the bone-touching needling method, proposing that the core mechanism of this therapy is needle insertion reaching the periosteum and acting on the fascia, breaking through the previous limitation of vaguely explaining the acupuncture effect solely from the perspective of meridians [7].

2.2 Brain-Gut Axis: Pioneering the Idea of Brain-Gut Co-Treatment

In clinical and experimental research on encephalopathies such as Parkinson's disease, Liu Zhibin proposed the academic concept of "brain-gut homology and bidirectional regulation" [8]. Starting from the theories of "brain governing the mind," "spleen and stomach transportation and transformation," and "large intestine conduction" in Chinese medicine, combined with the modern neuroendocrine mechanism of the brain-gut axis, he pointed out that encephalopathies are often accompanied by gastrointestinal disorders, and intestinal stagnation and counterflow of qi can in turn damage the brain marrow. Constipation and depression in Parkinson's patients are mutually causal, with the root cause lying in the dysregulation of the brain-gut pathway. Clinical treatment follows the principle of "brain-gut co-regulation," selecting points from the stomach meridian, back-mu points of the large intestine, and head calming points for bidirectional intervention. Acupuncture improves intestinal peristalsis on the one hand and regulates the central nervous system on the other, achieving coordinated regulation of the upper and lower body. Animal experiments have also confirmed that acupuncture can regulate brain-gut-related signaling pathways and inflammatory factors, validating the scientific basis of this theory [9].

2.3 Bone Measurement Research: Standardizing Anatomical Localization of Acupoints

Liu Zhibin deeply studied the Gudu chapter of the Spiritual Pivot. Through ancient text research combined with human cadaveric anatomy, he corrected the historical misunderstanding of the "twenty-one segments" of the back, clarified the starting and ending range of the vertebrae, elucidated that the arrangement of back shu points relies on the segmental distribution of spinal nerves, and proposed that back shu points have a clear neuroanatomical basis [10]. This approach guides point selection, breaking the traditional empirical model of point selection, standardizing the localization of points such as back shu and jiaji, and also providing anatomical basis for the zonal point selection of the scalp hairline micro-needle system.

2.4 Olfactory Collateral Entering the Brain: Establishing the Idea of Olfactory-Collateral Brain Resuscitation

Relying on experimental data on the association between the olfactory pathway and the hippocampus, Liu Zhibin formed the academic viewpoint of "olfactory-collateral brain resuscitation." The olfactory collaterals of the mouth and nose connect upward to the brain marrow. Stimulating olfactory area points such as Yingxiang (LI20) can improve hippocampal synapses and related protein expression through the olfactory conduction pathway. Based on this, he created the olfactory three-needle therapy, specifically intervening in neurodegenerative diseases such as Alzheimer's disease, vascular dementia, and olfactory impairment, realizing an innovative approach to preventing and treating encephalopathy through the olfactory target.

In summary, the overall characteristics of Liu Zhibin's academic work are: honoring the origin of the Inner Canon, integrating modern anatomy, mutual validation of clinical experience and animal experiments, and theoretical implementation in three distinctive therapies: bone-touching needling, olfactory three-needle, and scalp micro-needle.

3. Pattern Differentiation and Treatment Research

Liu Zhibin integrates theories related to meridians, jingjin, fascia, and the brain-gut axis, forming a multidimensional composite pattern differentiation approach, breaking the single pattern differentiation model. He treats pain disorders, neurodegenerative diseases, gastrointestinal diseases, and spinal disorders according to their specific patterns, with pattern differentiation closely following the pathogenesis root and treatment methods established according to the pattern.

3.1 Pattern Differentiation of Sinew and Bone Pain Disorders

Pattern differentiation of pain disorders is based on the core pathogenesis of "fascial contracture and bone collateral stasis," with the key diagnostic points being "taking pain as the acupoint and the disease location being the fascia and

periosteum" [11]. External contraction of wind-cold-dampness pathogens, strain, and trauma can all cause fascial adhesion and stagnation of qi and blood in the periosteum, leading to pain due to blockage; prolonged illness with liver and kidney deficiency results in malnutrition of the fascia, causing pain due to lack of nourishment. Clinically, excess and deficiency patterns are distinguished: excess patterns are mostly acute strain or wind-cold blockage, with obvious local tenderness and muscle tension; deficiency patterns have a long course, with dull persistent pain aggravated by fatigue. Treatment selects the bone-touching needling method, combining distal five-shu and cleft points, local ashi bone-touching needling, and needle picking to release adhesion lesions [12]. For non-structural scoliosis, the pattern is mostly attributed to fascial traction imbalance and qi disharmony, without bony organic changes. Treatment uses bone-touching needling to release the fascia on both sides of the spine, combined with kneading and rolling tuina to relax soft tissues and correct postural imbalance [13].

3.2 Pattern Differentiation of Neurodegenerative Diseases (Parkinson's Disease, Alzheimer's Disease)

Pattern differentiation is based on "kidney essence deficiency as the root, and olfactory collateral obstruction and brain-gut disharmony as the branch" [14]. Insufficient kidney essence leads to malnutrition of the brain marrow, obstruction of the olfactory meridians and collaterals, and damage to the spirit mechanism, manifesting as forgetfulness and cognitive decline. At the same time, the brain loses regulation, leading to disorder of the spleen, stomach, and large intestine qi, accompanied by constipation, insomnia, and other concurrent symptoms. The disease location involves the olfactory collaterals and the brain-gut pathway. Experiments have confirmed that an intact olfactory pathway is key to the effectiveness of the olfactory three-needle therapy; if the olfactory nerve is damaged, acupuncture can hardly improve the cholinergic system or SOD antioxidant levels, supporting that olfactory collateral obstruction is an important pathogenesis. Clinically, treatment is based on "tonifying the kidney and unblocking the olfactory collaterals, and regulating the brain-gut axis," using both olfactory area points such as Yingxiang (LI20) to resuscitate the brain and gastrointestinal back-mu points to regulate fu-organ qi.

3.3 Pattern Differentiation of Spleen and Stomach Intestinal Disorders

For gastrointestinal disorders such as functional diarrhea, the key pattern differentiation is "dysregulation of back-mu qi and dysfunction of spleen and stomach transportation and transformation" [15]. Spleen and stomach qi deficiency and internal disturbance of cold and heat cause dysfunction of the large intestine's conduction function, and imbalance of the meridian qi at zangfu shu points is the main pathogenesis of diarrhea. Liu Zhibin follows the pattern differentiation idea of back-mu point pairing: Dachangshu (BL25) is the back shu point of the large intestine, and Tianshu (ST25) is the front-mu point of the large intestine. The two points, one on the back and one on the abdomen, one zang and one fu, have interconnected meridian qi. After pattern differentiation, priority is given to using the back-mu paired points to bidirectionally regulate gastrointestinal peristalsis, treating from the perspective of zangfu qi imbalance, achieving both antidiarrheal and spleen-stomach harmonizing effects.

Overall, the characteristics of Liu Zhibin's pattern differentiation are: combination of disease and pattern, linkage between zangfu and body surface fascia, and microscopic experiments supporting macroscopic pattern differentiation. He not only follows the tradition of TCM pattern differentiation but also relies on animal experiments and clinical data to verify the objectivity of the pathogenesis, providing a theoretical basis for treatment selection.

4. Clinical Experience

Based on his four distinctive techniques — the bone-touching needling method, kneading-rolling tuina, scalp micro-needle, and olfactory three-needle therapy — combined with the integrated use of acupuncture and herbs, Liu Zhibin has formed standardized diagnosis and treatment protocols for four major disease categories: neurodegenerative diseases, spinal disorders, gynecological pain syndromes, and various intractable pain conditions. Clinically, he selects techniques in a stratified manner, coordinates acupuncture and tuina, and achieves definite therapeutic effects.

4.1 Treatment of Encephalopathies (Parkinson's Disease, Post-Stroke Cognitive Impairment, Tinnitus)

For the series of complications of Parkinson's disease, treatment follows the "kidney-bone-brain axis" and "brain-gut co-regulation" theories:

Parkinson's disease with insomnia: acupuncture is used at head calming points combined with limb regulating points, with tuina and acupuncture working together to unblock meridians, improving nighttime physical stiffness and mental restlessness [16].

Parkinson's disease with mild cognitive impairment: the olfactory three-needle therapy is mainly used, combined with head points, relying on the olfactory pathway to improve hippocampal nerve function and reduce cognitive decline [17].

Subjective tinnitus: treatment is based on the "kidney-bone-brain axis," tonifying the kidney and consolidating the root, unblocking the ear collaterals, using both proximal and distal points, addressing both kidney essence deficiency and meridian obstruction [18].

Post-stroke cognitive impairment: points are mainly selected from the head, supplemented with spleen and stomach harmonizing points, treating both root and branch to improve memory and thinking functions [19]. Animal experiments have demonstrated that electroacupuncture at Baihui (GV20), Quchi (LI11), and Zusanli (ST36) can downregulate oxidative stress levels in the brain-gut axis, reduce neuronal damage in the substantia nigra, providing experimental evidence for acupuncture treatment of encephalopathies [20].

4.2 Spinal Disorders (Adolescent Scoliosis, Various Sinew-Related Pain Conditions)

4.2.1 Adolescent Idiopathic Scoliosis

Structural and non-structural scoliosis are distinguished. Non-structural scoliosis is mostly caused by fascial contracture and muscle imbalance. Treatment uses the bone-touching needling method combined with kneading- rolling tuina [21]: the bone-touching needle is inserted into the fascial attachment points on both sides of the spine to release adhesions, and the kneading-rolling method relaxes the back and waist muscles, correcting the tension imbalance of soft tissues on both sides, without using bone-setting manipulation to forcefully correct bony deformities, gradually adjusting the posture.

4.2.2 Post-Stroke Shoulder Pain and Various Soft Tissue Pains

Post-stroke shoulder pain is classified as jingjin bi disorder. Liu Zhibin pioneered the jingjin bone-touching point selection system, searching for muscle nodule pain points around conventional points such as Jianyu (LI15) and Binao (LI14), naming them secondary Jianyu and secondary Jianqian. The needle is inserted obliquely at 45° through the muscle nodule directly to the periosteum, combined with standard rehabilitation training. Clinical controlled trials have shown that this protocol is significantly superior to conventional acupuncture in relieving pain and restoring upper limb mobility [22]. For other neck, shoulder, back, and leg pains, the same approach of bone-touching needling at periosteal attachment points combined with needle picking to release lesions is used to quickly relieve pain caused by fascial entrapment.

4.3 Gynecology: Primary Dysmenorrhea

The main protocol combines the kneading-rolling method with the bone-touching needling method, taking points from three regions: waist, abdomen, and lower limbs. Bone-touching needling at the waist releases the lumbosacral fascia, points on the abdomen regulate the chong and ren vessels and qi and blood, and distal points are combined to regulate the meridians. Acupuncture and tuina work together to disperse cold, promote qi circulation, and nourish the uterus. This protocol is particularly practical for dysmenorrhea of cold coagulation and qi stagnation types [23]. The scalp hairline micro-needle can also be combined for synergistic effect, regulating the zangfu through the skin regions, optimizing menstrual pain and lower abdominal distension.

4.4 Practical Characteristics of Distinctive Therapies

Bone-touching needling method: Targets muscle nodule points and periosteal attachment points, inserting obliquely into the sinew and reaching deeply to the bone, focusing on releasing fascial stagnation; universally applicable to all disease categories.

Kneading-rolling tuina: Mostly used for spinal and gynecological disorders, releasing superficial soft tissues and preparing the way for acupuncture.

Olfactory three-needle therapy: Specifically targets olfactory

disorders and dementia-type encephalopathies, relying on the idea of olfactory-collateral brain resuscitation, targeting the olfactory pathway to improve brain function.

Point pairing rules: For encephalopathies, emphasize pairing head points with gastrointestinal points (brain-gut co-regulation); for pain disorders, emphasize local muscle nodule points; for gynecology, emphasize lumbosacral + abdominal points.

In summary, Liu Zhibin's clinical practice adheres to selecting techniques based on pattern differentiation, with acupuncture and tuina complementing each other, and clinical practice and animal experiments mutually referencing each other. The four distinctive therapies cover common diseases of multiple systems, forming a complete practical system.

5. Acupoint Selection Patterns

Based on clinical experience and combined with molecular animal experiments, Liu Zhibin has formed a distinctive point selection and compatibility system. Point selection follows three principles: lesion targeting, back-mu point correspondence, and treating both root and branch. Mechanistic research is carried out around four schemes: olfactory three-needle therapy, bone-touching needling method, gastrointestinal point pairing, and gynecological point selection, with clinical point selection implemented and mechanisms elucidated through experiments.

5.1 Principles of Distinctive Point Selection and Compatibility

5.1.1 Targeted and Proximal Point Selection

The olfactory three-needle therapy fixedly selects bilateral Yingxiang (LI20) and Yintang (GV29+). Based on the theories that the Governor Vessel enters the brain and the Yangming meridian connects the nose through Yingxiang, the target focuses on the olfactory mucosa and olfactory bulb, stimulating the olfactory pathway proximally. The mechanism of this point selection scheme has been experimentally confirmed. The bone-touching needling method selects all fascial attachment points, bone fissures, and periosteal points, targeting along the course of the pathological fascia to directly reach the disease location. The scalp micro-needle selects points proximally according to the anatomical zones of the head, corresponding to brain functional areas, achieving zonal targeted treatment.

5.1.2 Back-Mu Point Pairing

For gastrointestinal diseases, priority is given to pairing Dachangshu (BL25) with Tianshu (ST25), one on the back and one on the abdomen, combining the back shu and front-mu points. This is the core point pairing of Liu Zhibin for treating functional diarrhea. Animal experiments have confirmed that this point group can regulate the expression of 5-HT and c-fos in the colon, bidirectionally regulating intestinal peristalsis, representing his zangfu point pairing idea [24].

5.1.3 Stratified Point Pairing for Root and Branch

For gynecological disorders, local points such as Zigong (EX-

CA1) and lumbosacral painful points are used to treat the branch, while distal liver and kidney back shu points are used to tonify the root. For conditions such as premature ovarian insufficiency, based on the theory of liver and kidney deficiency, treatment uses a combination of local and distal meridian points, addressing both the local qi and blood of the uterus and the root of the whole body's zangfu [25].

5.2 Three Core Therapy Point Pairings and Experimental Mechanisms

Olfactory three-needle therapy: Fixed point group of Yingxiang (LI20) and Yintang (GV29+). Multiple animal experiments have confirmed that this electroacupuncture group can regulate the PI3K/Akt pathway [26], downregulate tau and iNOS protein expression [27], inhibit GFAP expression in the substantia nigra, protect the ultrastructure of the olfactory bulb, reduce glial activation and neuronal damage, thereby both improving cognitive impairment in dementia and Parkinson's disease and repairing olfactory function, elucidating the material basis of olfactory-collateral brain resuscitation at the molecular level.

Bone-touching point pairing: Core points are various joints and paravertebral bone attachment points, with no fixed prescription, flexibly changing according to the location of muscle nodule pain points, focusing on releasing fascial adhesions, mostly used for various bi pain and spinal disorders.

Gastrointestinal back-mu point group: Dachangshu (BL25) + Tianshu (ST25). Electroacupuncture intervention can regulate hypothalamic-colonic neurotransmitter secretion and improve gastrointestinal endocrine disorders, making it the preferred pairing for intestinal diseases.

5.3 Characteristics of Modern Experimental Research

Liu Zhibin's team has conducted a large number of animal experiments on the above classic point pairings, elucidating the mechanisms of acupuncture from multiple perspectives such as ferroptosis, oxidative stress, inflammatory proteins, and neural pathways [28], achieving the objectification of TCM point pairing experience, ensuring that clinical point selection is evidence-based and mechanisms are verifiable.

6. Conclusion

Professor Liu Zhibin, based on the acupuncture heritage of the Shaanxi school, integrates the jingjin and gudu theories of the Inner Canon with modern neurology and molecular medicine, constructing three core academic systems: fascia-zangfu, brain-gut co-regulation, and olfactory-collateral brain resuscitation, and forming three distinctive diagnostic and therapeutic techniques: the bone-touching needling method, the olfactory three-needle therapy, and the scalp hairline micro-needle therapy. Clinically, he has established stratified pattern differentiation and treatment protocols combining acupuncture and tuina for neurodegenerative diseases, sinew-related and spinal disorders, gynecological diseases, and gastrointestinal diseases. Point selection adheres to the principles of targeted point selection and back-mu point pairing. Relying on a large number of animal experiments, he has elucidated the molecular mechanisms of acupuncture from multiple dimensions including oxidative stress, inflammation, the PI3K/Akt pathway, and the brain-gut axis. Current research mostly focuses on single-target experiments, with insufficient exploration of multi-pathway interactions. Future multicenter clinical and compound mechanism studies are needed to further standardize needling techniques and promote the dissemination and inheritance of his academic experience [29].

References

[1] Liu Zhibin, Niu Xiaomei. On the localization of the "twenty-one segments" [J]. Chinese Journal of Basic Medicine in Traditional Chinese Medicine, 2010, 16(3): 241-243.

[2] Liu Zhibin. Clinical application of the bone-touching needling method [C]// World Federation of Acupuncture-Moxibustion Societies, China Academy of Chinese Medical Sciences. Proceedings of the 2024 International Academic Conference on Acupuncture - Moxibustion of the World Federation of Acupuncture - Moxibustion Societies. [Publisher unknown], 2024: 79.

[3] Niu Wenmin, Liu Zhibin, Yang Xiaohang, et al. Effects of scalp hairline micro-needle therapy on cognitive function and acetylcholinesterase in patients with vascular dementia [J]. Journal of Zhejiang Chinese Medical University, 2015, 39(2): 147-149.

[4] Wang Qiang, Liu Zhibin, Wang Yuan, et al. Effects of "olfactory three-needle" intervention on the ultrastructure of the olfactory bulb and expression of glial fibrillary acidic protein in a mouse model of Parkinson's disease [J]. Chinese Acupuncture & Moxibustion, 2018, 38(10): 1093-1098.

[5] Niu Wenmin, Liu Zhibin, Guo Jinghui, et al. Analysis of the essence of Sun Simiao's health preservation theory [J]. Chinese Journal of Basic Medicine in Traditional Chinese Medicine, 2020, 26(6): 718-720+807.

[6] Zeng Qi, Liu Zhibin, Wang Yuan, et al. Discussion on the mechanism of traditional tuina therapy based on fascial theory [J]. New Chinese Medicine, 2021, 53(17): 172-175.

[7] Liu Zhibin, Niu Wenmin, Wang Yuan, et al. Analysis of the bone-touching needling method and its mechanism [J]. Chinese Journal of Basic Medicine in Traditional Chinese Medicine, 2015, 21(6): 722+730.

[8] Wang Xiao, Liu Zhibin. Discussion on the bidirectional regulation of acupuncture on constipation and depression in Parkinson's disease based on the brain-gut axis theory [J]. Journal of Traditional Chinese Medicine, 2021, 49(6): 56-59.

[9] Wang Yuan, Wang Qiang, Fan Enzhao, et al. Effects of olfactory three-needle therapy on hippocampal phosphorylated PI3K/Akt protein expression and synaptic plasticity in SAMP8 mice [J]. Chinese Journal of Rehabilitation Medicine, 2021, 36(2): 135-142+148.

[10] Liu Zhibin, Niu Xiaomei. On the neuroanatomical basis of back shu point localization [J]. Chinese Journal of Basic Medicine in Traditional Chinese Medicine, 2013, 19(1): 83-85.

[11] Li Binfeng, Liu Zhibin, Gao Li. Professor Liu Zhibin's experience in differentiating and treating pain disorders with needle picking therapy based on the theory of

"taking pain as the acupoint" [J]. China Medical Herald, 2023, 20(15): 151-153+167.
[12] Dai Linfeng, Wang Bin, Liu Fan, et al. Experience of renowned Chinese medicine practitioner Liu Zhibin in treating pain disorders with the bone-touching needling method [J]. Shaanxi Traditional Chinese Medicine, 2023, 44(11): 1609-1612.
[13] Zhou Ying, Liu Zhibin, Li Binfeng, et al. Professor Liu Zhibin's experience in treating non-structural scoliosis with the bone-touching needling method combined with kneading-rolling method [J]. Modern Journal of Integrated Traditional Chinese and Western Medicine, 2026, 35(3): 376-379+384.
[14] Niu Wenmin, Liu Zhibin, Yang Xiaohang, et al. Effects of olfactory three-needle therapy on hippocampal ChAT and SOD activities in AD rats [J]. Journal of Shaanxi College of Traditional Chinese Medicine, 2013, 36(6): 93-95.
[15] Zhao Panpan, Liu Zhibin, Wang Bin, et al. Clinical observation of acupuncture at Tianshu (ST25) and Dachangshu (BL25) based on back-mu point pairing theory for functional diarrhea [J]. World Journal of Integrated Traditional and Western Medicine, 2020, 15(2): 348-351+356.
[16] Li Zongyuan, Shi Minyan, Feng Weixing, et al. Liu Zhibin's experience in treating insomnia in Parkinson's disease with acupuncture and tuina [J]. Jiangsu Traditional Chinese Medicine, 2026, 58(3): 13-17.
[17] Shi Minyan, Feng Weixing, Wang Qiang, et al. Liu Zhibin's experience in treating mild cognitive impairment in Parkinson's disease with acupuncture [J]. Chinese Acupuncture & Moxibustion, 2025, 45(5): 678-682.
[18] Wu Yunru, Liu Zhibin, Feng Weixing, et al. Liu Zhibin's experience in treating subjective tinnitus with acupuncture based on the "kidney-bone-brain" axis [J]. Chinese Acupuncture & Moxibustion, 2025, 45(6): 808-812.
[19] Wu Yunru, Liu Zhibin, Li Binfeng, et al. Summary of Professor Liu Zhibin's clinical experience in treating post-stroke cognitive impairment with acupuncture [J]. Shanghai Journal of Acupuncture and Moxibustion, 2025, 44(10): 1159-1162.
[20] Liu Fan, Liu Zhibin, Ma Xue, et al. Effects of electroacupuncture on brain-gut oxidative stress in mice with Parkinson's disease [J]. Acupuncture Research, 2024, 49(3): 256-264.
[21] Wu Yunru, Liu Zhibin, Li Binfeng, et al. Liu Zhibin's experience in treating adolescent idiopathic scoliosis with acupuncture and tuina [J]. Guiding Journal of Traditional Chinese Medicine and Pharmacy, 2025, 31(7): 215-218.
[22] Yuan Haiguang, Liu Zhibin, Feng Weixing. Observation of the therapeutic effect of jingjin bone-touching needling method on post-stroke shoulder pain [J]. Chinese Acupuncture & Moxibustion, 2017, 37(10): 1035-1039.
[23] Fu Yunxiao, Li Binfeng, Wu Bingqiang, et al. Professor Liu Zhibin's experience in treating primary dysmenorrhea with kneading-rolling method combined with bone-touching needling method [J]. Journal of Emergency in Traditional Chinese Medicine, 2024, 33(4): 721-724.
[24] Wang Qiang, Wang Yuan, Niu Wenmin, et al. Effects of electroacupuncture at different point groups on the expression of 5-hydroxytryptamine and c-fos protein in the hypothalamus and colon of rats with functional diarrhea [J]. Acupuncture Research, 2019, 44(7): 501-505.
[25] Wang Danni, Liu Zhibin, Li Binfeng. Research progress on the mechanism of acupuncture in treating premature ovarian insufficiency [J]. Journal of Clinical Acupuncture and Moxibustion, 2025, 41(1): 101-105.
[26] Wang Bin, Cao Xing, Liang Xingxing, et al. Exploration of the effects of "olfactory three-needle" electroacupuncture on hippocampal neurons in rats with vascular cognitive impairment based on the PI3K/Akt signaling pathway [J]. Information on Traditional Chinese Medicine, 2026, 43(3): 1-6.
[27] Wang Yuan, Liu Zhibin, Niu Wenmin, et al. Effects of "olfactory three-needle" therapy on the expression of iNOS and phosphorylated tau protein in the hippocampus of AD mice [J]. Journal of Shaanxi University of Chinese Medicine, 2018, 41(5): 102-106.
[28] Ma Xue, Liu Fan, Wang Qiang, et al. Effects of electroacupuncture on ferroptosis-induced oxidative stress and apoptosis in mice with Parkinson's disease [J]. Acupuncture Research, 2023, 48(12): 1242-1248.
[29] Huang Jinyu, Liang Xingxing, Zhu Wanyi, et al. Research overview of the mechanism of electroacupuncture intervention in Parkinson's disease [J]. Modern Journal of Integrated Traditional Chinese and Western Medicine, 2023, 32(3): 420-424.