DOI: 10.53469/jcmp.2025.07(09).05

Clinical Status and Idea Analysis of Long Needle Penetration Acupuncture in the Treatment of Stroke Sequelae

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Abstract: ***Stroke is an acute cerebrovascular disease with a rapid onset. After a stroke, most patients suffer from motor, sensory, or cognitive impairments of varying degrees, lose their ability to live independently, and their quality of life is seriously affected. This has become a clinical problem that urgently needs to be addressed. Starting from the origin and characteristics of the long needle penetration acupuncture method, this article reviews relevant domestic and international literature, summarizes the current status of long needle penetration acupuncture in the treatment of stroke sequelae, analyzes its treatment ideas, and provides relevant references for clinical practice.***

Keywords: Long needle, Penetration acupuncture, Stroke**.**

1. Introduction

Stroke is an acute cerebrovascular disease caused by the obstruction or rupture of blood vessels in the brain, which leads to damage to brain tissue and dysfunction of certain brain functions, thereby affecting the central nervous system. It includes ischemic stroke and hemorrhagic stroke, with clinical manifestations such as hemiplegia, dysarthria, sensory deficits, and gait disorders [1]. Epidemiological reports [2] indicate that stroke is the second leading cause of death and the leading cause of disability worldwide, with the disability rate increasing year by year. With the continuous development of medical technology, timely and effective treatment has prolonged the lives of patients. However, most patients are accompanied by and left with varying degrees of motor, sensory, cognitive, and other impairments, which cause them to lose the ability to take care of themselves and reduce their quality of life. In recent years, the clinical application of long needle penetration acupuncture in the treatment of stroke sequelae has been widespread. In particular, the intervention of long needle penetration acupuncture combined with body acupuncture, rehabilitation training, electroacupuncture stimulation, acupoint application, and other methods has achieved certain progress in promoting the rehabilitation process of stroke patients.

2. Research Status of Long Needle Penetration Acupuncture in the Treatment of Stroke Sequelae

2.1 Origin of Long Needles and Characteristics of Penetration Acupuncture

Long needles evolved from the "long needle" among the "Nine Needles" (a classic classification of acupuncture needles in traditional Chinese medicine). Currently, they are mostly made of stainless steel. Due to their elasticity and slender shape resembling wheat awns, they are named "long needles" (Mangzhen in Chinese). The earliest record of long needles can be found in Lingshu·Jiuzhen Shieryuan (Miraculous Pivot·The Twelve Primary Meridians and the Nine Needles), which states: "The Nine Needles bear different names and have distinct shapes... The eighth is the long needle, which is seven cun in length... The long needle, with its sharp tip and thin body, can be used to treat deep-seated and lingering impediments (bi syndrome)." In the Song Dynasty, Emperor Huizong (Zhao Ji) described in Shengji Zonglu (General Record of the Holy Benevolence): "Thus, the long needle is modeled after the Qi needle, seven cun in length, and is used to treat deep pathogenic factors and lingering impediments. "Xu Feng, an acupuncture physician in the Ming Dynasty, noted: "Long needles treat deep-seated obstructions."

Long needle penetration acupuncture refers to the technique of selecting long needles to penetrate one or two acupoints, allowing the needling sensation to propagate along the meridians where the acupoints are located. This stimulates the local muscles and tendons, enables the needling sensation to directly reach the lesion site, promotes blood circulation, and thereby restores bodily functions. Its functional characteristics can be summarized by the phrase "fewer needles with stronger efficacy" (zhen shao li xiong). As stated in Lingshu·Jiuzhen Shieryuan: "The key to acupuncture lies in the arrival of Qi (vital energy), which ensures effectiveness." Compared with conventional acupuncture needles, long needles have a longer body and require penetration of fewer acupoints. As a result, they produce a stronger needling sensation, achieve the arrival of Qi more quickly, and make it easier to direct Qi to the lesion site. This regulates the functions of various zang-fu organs (viscera in traditional Chinese medicine), strengthens the connections between the exterior and interior of the body, and restores the body to a state of "yin-yang balance" (yin ping yang mi)—a state of harmonious equilibrium of vital energies essential for health in traditional Chinese medicine.

2.2 Research Status

2.2.1 Long Needle Penetration Acupuncture for Post-Stroke Dysphagia

Post-stroke dysphagia (PSD) refers to clinical symptoms such as difficulty swallowing, speech disorders, and choking when drinking water, which occur due to local damage to the cerebral cortex, subcortical fibers, or brainstem swallowing center in patients after a stroke [3]. In traditional Chinese medicine (TCM), it can be classified into the categories of "yige" (dysphagia-occlusion) and "houbi" (throat obstruction) based on its clinical manifestations, and is regarded as a "qiaobing" (disorder of the orifices).

Based on the trinity of "meridians-acupoints-manipulation", Cheng Hongliang et al. [4] emphasized obtaining the needling sensation when using long needles for curved needling at Tiantu (CV22), deep needling at Quanzhi (an extra acupoint), and penetrating needling from Zusanli (ST36) to Sanyinjiao (SP6). The results showed that long needle penetration combined with filiform needle acupuncture could effectively improve the swallowing function of patients with post-stroke dysphagia. Li Jing et al. [5] treated post-stroke dysphagia with curved needling at Tiantu (CV22) using long needles combined with rehabilitation training, achieving a clinical effective rate of 93. 33%. In addition, through a randomized controlled trial, Sun Qiang et al. [6] applied long needle penetration at acupoints such as Tiantu (CV22), Quanzhi (extra acupoint), Fengfu (GV16), Lianquan (CV23), Zusanli (ST36), and Sanyinjiao (SP6). The results indicated that long needle penetration acupuncture could effectively alleviate the degree of dysphagia in patients with post-stroke pseudobulbar palsy. Yu Haozhe, Yan Liangang et al. [7] treated the condition by combining long needle penetration at Tiantu (CV22) with "tongue acupuncture". This approach improved cerebral circulation and stimulated laryngopharyngeal nerves through acupuncture, thereby achieving the effects of dredging meridians and regulating qi and blood, with remarkable results.

2.2.2 Long Needle Penetration Acupuncture for Post-Stroke Dysarthria

Dysarthria is a common sequela of stroke. After a stroke, patients may experience varying degrees of speech dysfunction, which severely impairs their daily communication ability, affects their social interactions, work, and life, and even leads to mental and psychological disorders in some patients [8]. In traditional Chinese medicine (TCM), it can be categorized as "yinfei" (dysphonia with flaccidity) based on its clinical manifestations. The term "yinfei" first appeared in Suwen·Maijie Pian (Plain Questions·Explanation of Pulses), which states: "Internal depletion leading to syncope results in yinfei; this is due to kidney deficiency, and syncope arises when the Shaoyin meridian fails to reach [its proper location]. "

Du Bin, Niu Hongyue et al. [9] treated post-stroke dysarthria with long needles combined with the "Tongguan Liqiao Method" (Method of Unblocking the Orifices), achieving significant clinical effects with a total effective rate of 86. 67%. Gao Chunyan, Zhou Zhijie et al. [10] first applied the "Four Head Acupoints" technique, then combined it with Professor Zhou Zhijie's long needle penetration acupuncture for pseudobulbar palsy, selecting points such as penetrating Dazhui (GV14) to Yaoyangguan (GV3) and Tiantu (CV22) to Danzhong (CV17) to regulate yin-yang balance and promote the recovery of brain function.

2.2.3 Long Needle Penetration Acupuncture for Post-Stroke Motor Imbalance

Cerebrovascular diseases cause damage to brain neurons, blocking motor pathways such as the corticospinal tract, cerebral white matter, and motor cortex, leading to varying degrees of motor dysfunction in the body. Lower limb motor dysfunction after stroke falls into the categories of "jinbing" (tendon disorder) and "jingzheng" (spasm syndrome) in TCM. Shengji Zonglu (General Record of the Holy Benevolence) records: "After a stroke, the hands and feet are unable to move freely, or there is contracture with inability to flex and extend... or numbness and heaviness; the disease lies in the muscles and bones. "

Liu Yilei, Wang Ying et al. [11] found that long needle penetration at acupoints of the Yang meridians of the hands and feet and the Du meridian, combined with body acupuncture, could effectively improve the balance function of patients with post-stroke hemiplegia, enhance muscle strength, reduce central pain, and promote neurological recovery. Chen Lixia, Li Chengjia, Wang Tingting et al. [12] applied long needle penetration on trunk muscles combined with rehabilitation training, which showed significant advantages in improving motor function, neurological function, and balance ability of post-stroke patients, enhancing patients' exercise compliance and promoting the recovery of limb motor function. Gao Xiao, Dong Shiqiu, Wang Zhijie et al. [13] used electro-long needle penetration therapy to improve the control function of the knee and ankle joints in patients with ischemic stroke, inhibit knee hyperextension and talipes varus, maintain the stability and range of motion of the knee and ankle joints, and achieve the goal of improving lower limb motor function. Lu He, Zhao Weifeng et al. [14] found through a clinical controlled trial that long needle penetration acupuncture could significantly improve muscle tone and motor function in patients with post-stroke hemiplegia. Shang Ying, Lu Xiuyan, Hu Chuan et al. [15] observed the effect of long needle penetration combined with rehabilitation training (including hip abduction and adduction training, hip flexion and extension training, and knee flexion and extension training) and concluded that long needle penetration combined with suspension exercise has a definite effect on improving early lower limb motor dysfunction after stroke, which is worthy of clinical promotion. Zhu Hongcheng, Rui Ren, Wang Pin et al. [16] found through research that long needle penetration at the group acupoints of the Du meridian combined with balance training could significantly improve the balance function and walking ability of post-stroke patients.

2.2.4 Long Needle Penetration Acupuncture for Post-Stroke Shoulder-Hand Syndrome

Shoulder-hand syndrome (SHS) is one of the common complications after stroke, with an incidence rate ranging from 12. 5% to 70% [17]. SHS seriously affects the upper limb motor function of patients and increases the disability rate. Post-stroke shoulder-hand syndrome belongs to the categories of "bizheng" (bi syndrome) and "shuizhong" (edema) in TCM. Suwen·Tiaojing Lun (Plain Questions·On

Regulating the Meridians) states: “When the hand bends and cannot extend, the disease lies in the tendons. “

Zhou Ting et al. [18] used long needle penetration acupuncture, selecting main acupoints such as Jianyu (LI15), penetrating Jianliao (TE14) to Binao (LI14), and penetrating Hegu (LI4) to Houxi (SI3), with additional acupoints selected based on syndrome differentiation, achieving significant clinical effects. Pan Ruirui et al. [19] treated post-stroke SHS with long needle penetration (penetrating Jiquan (HT1) to Jianyu (LI15), Jianliao (TE14); penetrating Binao (LI14) to Jianyu (LI15); penetrating Quchi (LI11) to Wenliu (LI7); penetrating Hegu (LI4) to Houxi (SI3)) combined with exercise therapy, and found that this method could more effectively relieve pain, restore upper limb motor function, and reduce the degree of edema. Zhi Mengxia et al. [20] proved through research that long needle penetration acupuncture combined with pricking collateral and cupping therapy could alleviate shoulder joint pain, improve shoulder joint mobility, and relieve edema in post-stroke SHS patients. Murong Zhimiao, Niu Hongyue et al. [21] treated post-stroke SHS with long needle penetration at acupoints such as Jiquan (HT1) and Sanjian (LI3), combined with filiform needle acupuncture at Jianyu (LI15), Jianliao (TE14), and Waiguan (TE5), achieving a total effective rate of 88. 6%. Jiang Liang et al. [22] found in a clinical controlled trial that long needle penetration acupuncture could effectively reduce pain in the affected shoulder and hand, eliminate finger swelling, and improve patients’ joint mobility, with a therapeutic effect superior to that of the conventional acupuncture group.

2.2.5 Long Needle Penetration Acupuncture for Post-Stroke Defecatory Disorder

Defecatory disorder is one of the common complications in patients with acute cerebrovascular accidents (stroke), with a clinical incidence rate of 29% to 79% among all stroke patients [23-24]. Its main clinical manifestations include dry stool, prolonged defecation time, reduced defecation frequency, or difficulty in defecation. During defecation, patients may experience increased intracranial pressure due to excessive straining, which aggravates brain tissue damage, affects patient prognosis, and may even lead to stroke recurrence, threatening patients’ lives and health [25]. The clinical manifestations of defecatory disorder in stroke patients fall into the category of “bianmi” (constipation) in TCM.

Liu Shuping, Wang Tian, Li Xiaofei et al. [26] used long needles for deep insertion at bilateral Huiyang (BL35) and Ciliao (BL32), combined with acupoint application, and found that this method could effectively relieve clinical symptoms such as difficulty in defecation, increase the content of short-chain fatty acids (SCFAs) in the intestine, improve stool properties, reduce the degree of defecatory disorder, and achieve a significant effect in treating post-stroke defecatory disorder. Su Meiyi, Fan Dehui, Liu Jian et al. [27] found that deep insertion of long needles at Huiyang (BL35) and Ciliao (BL32) combined with electroacupuncture could increase the number of spontaneous defecations, improve stool properties, and relieve defecation difficulty in stroke patients with constipation.

2.2.6 Long Needle Penetration Acupuncture for Post-Stroke Urinary Incontinence

Post-stroke urinary incontinence (PSUI) is a common complication after stroke. It occurs when stroke-induced damage to brain nerves causes loss of control over the detrusor muscle of the bladder and relaxation of the internal and external urethral sphincters, leading to uncontrolled urine leakage. Clinically, it presents as a series of symptoms including varying degrees of frequent urination, urgent urination, and urge urinary incontinence [28]. Patients with long-term PSUI may develop complications such as pressure ulcers and urinary system infections, which affect the rehabilitation process [29].

Zeng Xiangxin, Li Jiano, Zhang Muhua et al. [30] found that electroacupuncture combined with long needle penetration at Ciliao (BL32) had a significant effect in treating PSUI in patients with acute stroke, effectively improving patients’ bladder function and urodynamic indicators. Zhang Chen et al. [31] used long needles for deep insertion at acupoints such as Zhongliao (BL33), Zhibian (BL54), Shenshu (BL23), and Pangguangshu (BL28), combined with continuous-wave electroacupuncture, and found that this method could effectively regulate the bladder’s urine storage and voiding functions, thereby preventing and treating post-stroke urinary incontinence. Liang Jingjing, Zhang Jingjing, Zhao Min et al. [32] found that the “penetrating Zhibian (BL54) to Shuidao (ST28)” technique with long needles combined with salt-separated moxibustion at Shenque (CV8) for post-stroke urinary incontinence could reduce the frequency of urination, urinary incontinence episodes, and nocturia, and had a positive impact on physical motor function and cognitive function. Wu Xiaoli, Zhu Hongcheng, Wu Shengbing et al. [33] treated post-stroke urinary incontinence with long needle penetration (penetrating Qihai (CV6) to Zhongji (CV3), Zhibian (BL54) to Shuidao (ST28), Sanyinjiao (SP6) to Yinlingquan (SP9), Shenshu (BL23) to Pangguangshu (BL28)) combined with pelvic floor muscle training, achieving a definite therapeutic effect and improving patients’ quality of life. Liu Jiarran et al. [34] found that abdominal long needle penetration combined with rapid needling at the Baliao (Eight Liao Points) could reduce nocturia in post-stroke urinary incontinence patients, alleviate urgency and the degree of urinary incontinence, and to a certain extent, reduce the frequency of daytime urination and the number of urinary incontinence episodes within 24 hours. Gao Le, Niu Hongyue et al. [35] treated 30 cases of urinary incontinence after cerebral infarction with the “Xingnao Kaiqiao Acupuncture Method” (Awakening the Brain and Unblocking the Orifices Acupuncture Method) combined with deep insertion of long needles at Zhongwan (CV12), Guanyuan (CV4), and Shuidao (ST28). The results showed that the degree of urinary incontinence in patients was significantly improved compared with the control group.

2.2.7 Others

After a stroke, due to factors such as metabolic disorders, changes in gastrointestinal hormones, and adverse drug reactions [36-37], the proportion of patients with concurrent gastrointestinal dysfunction is as high as 30% to 60% [38-39]. Long-term gastrointestinal dysfunction not only causes

malnutrition in patients but may also lead to mental disorders [40] such as depression, which hinders disease rehabilitation.

Shao Wei, Huang Mengmeng et al. [41] used long needles for deep insertion at Zhongwan (CV12), bilateral Liangmen (ST21), and bilateral Tianshu (ST25), and found that this method had a significant effect in improving symptoms such as abdominal distension, early satiety, and hiccups. Feng Liyao et al. [42] believed through research that long needle penetration at the Back-Shu Points could significantly relieve hiccup symptoms in post-stroke patients, reduce hiccup frequency and duration, thereby improving sleep and mental state. Wang Hui et al. [43] used long needle penetration at Qimen (LR14) to Zhangmen (LR13) combined with filiform needle acupuncture to treat post-stroke depression of the liver qi stagnation type, achieving a significant effect and effectively promoting the recovery of cerebral and limb neurological functions in patients with post-stroke depression. Li Zhen, Niu Hongyue et al. [44] clinically applied the "Sanjiao Shuli Method" (Method of Dredging the Triple Burner) with long needle penetration at acupoints such as Zhongwan (CV12), Qihai (CV6), and Guanyuan (CV4) to treat post-stroke depression, obtaining good clinical efficacy. Yang Min et al. [45] showed through research that long needle acupuncture at the Back-Shu Points could alleviate depressive symptoms in post-stroke depression and promote the recovery of neurological function in these patients.

3. Analysis of the Approach of Long Needle Penetration Acupuncture in Treating Stroke Sequelae

3.1 Exploration of Pathogenesis After Stroke

3.1.1 Pathogenesis of Stroke in Traditional Chinese Medicine (TCM)

Stroke is also known as "Zhongfeng" in TCM. Zhang Zhongjing of the Han Dynasty first clearly proposed the disease name "Zhongfeng" in Jinkui Yaolue (Synopsis of the Golden Chamber) and provided a relatively detailed explanation of its etiology, pathogenesis, pulse conditions, and symptoms. The Huangdi Neijing (Inner Canon of the Yellow Emperor) contains rich descriptions of symptoms related to stroke. For example, Lingshu·Cijie Zhenxie (Miraculous Pivot·Acupuncture Points and Pathogenic Factors) states: "When pathogenic factors of deficiency attack one side of the body, and their invasion is deep... the pathogenic qi remains alone, leading to 'Pianku' (hemiplegia)." It also notes: "Pianku refers to hemiplegia." Additionally, Yilin Gaicuo (Corrections of Errors in the Medical Classics) records: "Stroke with hemiplegia and unilateral numbness is caused by qi deficiency and blood stasis."

Most modern TCM scholars believe that the main etiologies of stroke include internal damage from long-term deficiency, extreme emotional disturbances, improper diet, and excessive overwork or indulgence. These factors lead to the sudden hyperactivity of liver yang, internal generation of phlegm-heat, or qi deficiency with phlegm-dampness, which in turn trigger the stirring of internal wind, disorder of qi and blood, abnormal circulation of qi and blood along meridians, and upward attack on the brain. This results in blood stasis in cerebral vessels or extravasation of blood outside the vessels. The fundamental pathogenesis is the imbalance of yin and yang and disorder of qi and blood, with the disease location in the brain. The nature of the disease is "ben xu biao shi" (deficiency in origin and excess in superficiality): qi and blood deficiency or liver-kidney yin deficiency are the root causes, while wind, fire, phlegm, and stasis are the superficial pathogenic factors. Deficiency in the root allows pathogenic factors to invade the body, causing disorder of qi and blood, abnormal flow through the meridians, and direct attack on the brain, ultimately leading to stroke.

3.1.2 Pathogenesis of Stroke in Modern Medicine

Stroke is an acute cerebrovascular disease with a complex pathogenesis. The China Stroke Prevention and Treatment Report 2019 [46] indicates that in addition to non-modifiable factors such as genetics, underlying diseases like hypertension, diabetes, and dyslipidemia act as high-risk factors associated with the occurrence of stroke. It is evident that both underlying diseases and lack of physical activity can lead to stroke.

For diseases like stroke, prevention is more important than treatment. Currently, clinical treatment methods for stroke and its sequelae are limited. The main approaches include nourishing nerves, improving cerebral metabolism, promoting microcirculation, and actively controlling underlying diseases. Meanwhile, rehabilitation training is combined to regulate the excitability of motor neurons, improve muscle tone, and promote the recovery of limb motor function.

3.2 Possible Mechanisms of Long Needle Penetration Acupuncture in Treating Stroke Sequelae

Angiogenesis is a crucial protective mechanism that promotes nerve regeneration and functional recovery during the pathological process of stroke. Therefore, promoting angiogenesis in the peri-infarct area can effectively improve hemodynamics, thereby facilitating vascular remodeling and the recovery of neurovascular function after ischemic stroke [47]. Due to the supply relationship between neurons and blood vessels, this network is referred to as the "neurovascular unit" [48]; each blood vessel supplies the neurons under its jurisdiction [49], and the blood vessels carry oxygen, energy, and nutrients to support the normal function of neurons, promote the clearance of non-functional neurons, and maintain metabolism. In addition, studies have shown [50] that immunosuppression may be one of the pathogenic factors of stroke, or at least contribute to the development of post-stroke infections, affecting approximately 30% of stroke patients.

Modern studies [51] have found that long needle penetration acupuncture has a wide range of action and strong stimulation intensity. Through its overall regulatory effect on the body, it stimulates the deep muscle tissue at the lesion site, promotes local blood circulation, affects blood flow velocity, thereby improving microcirculation and hemorheology, promoting neurological recovery, and eliminating or alleviating numbness symptoms. Yang Zhaogang et al. [52] summarized the therapeutic characteristics of long needles as "dredging

and activating, skill-based manipulation" ("Shudan Qudong, Jiqiaoshuxing" in Chinese). This means that deep insertion of long needles can dredge meridians, regulate qi and blood of zang-fu organs, promote local microcirculation, and bring the body into a new state of dynamic balance, with "balance" as the therapeutic goal. Furthermore, as one of the acupuncture techniques, long needle penetration acupuncture inherits the immunomodulatory mechanism of acupuncture, regulating the body's immune system and correcting pathological conditions to effectively alleviate or treat related diseases [53].

3.3 Possible Effects of Long Needle Penetration Acupuncture in Treating Stroke Sequelae

In studies on post-stroke dysphagia and dysarthria, TCM classifies these conditions as "Qiaobing" (disorders of the orifices). Long needle penetration acupuncture selects acupoints such as Tiantu (CV22) and Quanzhi (extra acupoint) to relax tendons, dredge meridians, improve voice, and unblock the orifices. For motor dysfunctions commonly occurring in most post-stroke patients (e. g., motor imbalance, shoulder-hand syndrome), TCM categorizes them into the scope of "Bizheng-like diseases" (bi syndrome-related diseases). Clinically, long needle penetration acupuncture is often combined with rehabilitation training to relax tendons, dredge meridians, and promote the recovery of limb motor function. For post-stroke disorders such as bowel and bladder dysfunction, abdominal distension, and hiccups, long needle penetration acupuncture mainly focuses on regulating zang-fu organs to promote gastrointestinal peristalsis, regulate the bladder's controlling function, or regulate qi movement, thereby alleviating patients' clinical symptoms. Post-stroke patients are prone to mental disorders such as depression, which seriously hinder the rehabilitation process. Long needle penetration acupuncture is applied based on syndrome differentiation to soothe the liver, resolve stagnation, and regulate the Triple Burner (Sanjiao), relieving patients' anxiety and depression, enhancing their confidence, and achieving the therapeutic goal of "Yin Ping Yang Mi" (balance between yin and yang).

3.4 Prospects of Long Needle Penetration Acupuncture in Treating Stroke Sequelae

In recent years, long needle penetration acupuncture has been widely used in the clinical treatment of stroke sequelae. In particular, the combination of long needle penetration acupuncture with body acupuncture, rehabilitation training, electroacupuncture stimulation, and acupoint application plays a crucial role in the rehabilitation process of stroke patients. It can effectively improve the clinical symptoms of post-stroke patients and enhance their ability to live independently. Although there are many clinical studies on the efficacy of long needle penetration acupuncture for stroke patients, research on its underlying mechanisms remains insufficient. Additionally, from the perspective of current research literature, there is no uniformity in acupoint compatibility, needling angle, needling method, needling depth, needling intensity, or efficacy indicators used in different research protocols when long needle penetration acupuncture is applied to stimulate local acupoints. This may affect the accuracy of clinical studies. Finally, the concept of "treatment based on syndrome differentiation" is rarely reflected in clinical studies of long needle penetration acupuncture for stroke sequelae. The research subjects lack syndrome differentiation classification to varying degrees, and there is no detailed classification of disease types, syndromes, or symptoms. Future studies can subdivide research subjects to further explore research differences.

4. Conclusion

In summary, long needle penetration acupuncture has a significant effect in treating stroke sequelae and improving patients' clinical symptoms. In particular, due to the characteristics of long needles—such as targeting deep-seated and lingering pathogenic factors (bi syndrome), relaxing tendons and dredging meridians, and facilitating the arrival of Qi (vital energy)—long needle penetration acupuncture has distinct advantages, especially in the treatment of post-stroke motor disorders. It promotes the repair of limb motor function, reduces the disability rate of stroke, improves patients' self-care ability and social interaction skills, and alleviates mental stress states such as anxiety and depression. As one of the clinical acupuncture techniques, long needle penetration acupuncture provides a reference for acupuncture in the treatment of stroke sequelae.

Acknowledgements

This paper is supported by the fund: Research Project of Xi'an Science and Technology Bureau "Clinical Randomized Controlled Study on the Treatment of Ischemic Stroke Patients with Mang Needle Yin Yang Translucent Acupuncture Method" (No. 21YXYJ0058).

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