

Research Progress on Traditional Chinese Medicine External Treatments for Obesity

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Abstract Obesity is a common chronic metabolic disease affecting populations in multiple countries and regions worldwide. Traditional Chinese medicine (TCM) external treatments have garnered increasing attention due to their unique therapeutic advantages, such as simplicity of operation, proven efficacy, and minimal side effects. In recent years, research on the application of TCM external treatments in obesity treatment has deepened, involving various methods such as acupuncture, tuina (massage), acupoint catgut embedding, and acupoint herbal patching. This article reviews relevant studies to provide new insights for enhancing clinical efficacy and safety.

Key words TCM external treatments, Obesity, Review

1 Introduction

Obesity is a chronic metabolic disorder caused by multiple factors, characterized by imbalanced fat distribution, significant weight gain, and potential endocrine dysfunction. Its pathogenesis is closely related to genetic and environmental factors and may lead to various complications. In recent years, the proportion of overweight and obese individuals in China has continued to rise, with over 50% of adults classified as overweight or obese^[1]. Traditional Chinese medicine (TCM) external treatment has demonstrated significant efficacy in obesity treatment. Its mechanism involves regulating meridians, optimizing blood circulation, accelerating metabolism, and improving symptoms, with advantages such as high safety, notable efficacy, and adaptability^[2].

2 Etiology and pathogenesis

The etiology and pathogenesis of obesity in TCM are complex, often arising from dietary excess, emotional disturbances, improper work-rest balance, and constitutional deficiencies. These factors lead to pathological states such as spleen deficiency with dampness accumulation, phlegm-dampness stagnation, and qi-blood stasis^[3]. Many factors interact with each other to jointly promote phlegm-dampness brewing and lipids accumulation in the body, thus leading to obesity. Therefore, in the treatment of obesity, it should follow syndrome differentiation, focusing on regulating the spleen-stomach, resolving dampness-phlegm, soothing liver qi, and warming kidney yang. Excessive diet is an important pathogenic factor of obesity. Long-term indulgence in rich, sweet, high-fat, and high-sugar foods can easily lead to the disharmony of spleen and stomach functions, hindering the transportation and

transformation of water and food essence, resulting in the inability to distribute normally. This can lead to the accumulation of phlegm-dampness and fat substances in the body, ultimately causing obesity^[4]. Emotional imbalance is also one of the important factors leading to obesity. TCM believes that emotional injuries (such as worry and anger) can disrupt the flow of qi, leading to qi stagnation and blood stasis, as well as the internal production of phlegm-dampness^[5]. In addition, emotional imbalance can also damage the functions of the spleen and stomach, causing the internal production of water dampness and phlegm turbidity, thereby exacerbating obesity. Long-term sedentary lifestyle and lack of exercise are common factors for simple obesity. Prolonged sitting can lead to qi stagnation, yang qi stagnation, water dampness stagnation, forming internal phlegm-dampness obstruction, and ultimately leading to obesity^[6]. Obesity caused by different etiologies and pathogenesis should be treated according to the specific causes. TCM, as a commonly used clinical therapy, plays an important role in the treatment of obesity.

3 Therapeutic methods

3.1 Single therapies

3.1.1 Acupuncture. Acupuncture and electroacupuncture achieve weight loss by regulating insulin resistance, improving lipid profiles, and reducing serum insulin and leptin levels^[7]. Common acupoints include Zhongwan (CV12), Tianshu (ST25), and Zusanli (ST36). Additional points such as Guanyuan (CV4), Fenglong (ST40), and Quchi (LI11) may be selected based on individual conditions^[8]. The technique typically involves deep insertion with prolonged needle retention, combined with reinforcing and reducing manipulations. Clinical research data confirm that acupuncture therapy is effective in treating simple obesity, not only helping patients lose weight, but also improving BMI. Xie Yingying *et al.*^[9] selected 50 cases of simple obesity for acupuncture treatment and evaluated outcomes based on established efficacy criteria. The data shows that the total effective rate reached nearly 90%, indicating that acupuncture exhibits favorable therapeutic effects in treating simple obesity. The mechanisms may in-

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clude enhancing physical function, regulating endocrine activity, suppressing appetite, and promoting fat metabolism. Su Jing *et al.*^[10] found that waist circumference changes in patients with simple obesity after acupuncture treatment were asynchronous with weight changes. Over three treatment courses, waist circumference continued to decline, suggesting a gradual reduction in body fat content during treatment. The study concluded that acupuncture for weight loss has cumulative effects; longer treatment courses yield more significant results. Continuous treatment during the delayed-effect phase is crucial for obesity management and complication prevention. Cao Wenping *et al.*^[11] divided 60 patients with spleen deficiency-dampness type simple obesity into two groups (30 cases each). One group received spleen-strengthening and dampness-resolving acupuncture, while the control group used the "eight peri-umbilical acupoints". Both groups received electroacupuncture. Statistical analysis of obesity-related indicators before and after treatment showed significant reductions in weight, waist circumference, hip circumference, thigh circumference, BMI, and body fat percentage (BFP) in both groups, with statistically significant differences ($P < 0.01$), confirming the efficacy of acupuncture for simple obesity.

3.1.2 Tuina (massage). Tuina (massage) therapy employs various techniques such as abdominal rubbing, acupressure, kneading, and vibration, primarily targeting the abdomen, back, and limbs.

For instance, abdominal rubbing focuses on the Shenque (CV8) acupoint, performed clockwise in broad and narrow motions for 5 minutes per session to stimulate gastrointestinal motility and accelerate fat metabolism. Acupressure targets Zhongwan (CV12), Tianshu (ST25), and Zusanli (ST36). To investigate the clinical efficacy of tuina, Zhang Kun *et al.*^[12] recruited 90 patients and randomly divided them into control and observation groups. The control group (45 cases) received dietary adjustments and exercise interventions, while the observation group added tuina therapy. After 5 months of treatment, sleep status scores (SSS), functional assessment index (FAI), and body mass index (BMI) were evaluated. The results showed that patients in both the control and observation groups exhibited varying degrees of improvement in the aforementioned indicators. The observation group showed more significant reductions in both SSS and BMI compared to the control group. Further analysis revealed that this difference was statistically significant ($P < 0.05$), demonstrating the positive role of tuina therapy in promoting patients' health recovery. This result indicates that tuina therapy not only helps in weight control but also alleviates symptoms such as fatigue. Xie Yuanjun *et al.*^[13] treated 106 simple obesity patients with syndrome-differentiated tuina. For liver qi stagnation syndrome, Taichong (LR3) and Qimen (LR14) were pressed and kneaded, while Taichong (LR3) and Sanyinjiao (SP6) were used for yin deficiency with internal heat syndrome. Statistical analysis of treatment outcomes revealed that among the 106 patients in the study, 43 cases (40.6%) achieved clinical cure, 55 cases (51.9%) showed marked effective-

ness, 7 cases (6.6%) demonstrated partial effectiveness, and only 1 case (0.9%) was ineffective. This study not only documented the efficacy of tuina therapy in patients with simple obesity but also clarified the fundamental principles of tuina treatment. Specifically, the therapeutic strategy strictly adheres to the guiding principle of "clearing heat by draining yin meridians and reinforcing yang by supplementing yang meridians" under the framework of TCM syndrome differentiation and treatment. In practice, practitioners apply reinforcing techniques along the pathways of the three yang meridians of the hands and feet to enhance qi-blood circulation in the yang meridians. Conversely, reducing techniques are applied against the pathways of the three yin meridians to unblock yin meridians and clear internal heat.

3.1.3 Acupoint catgut embedding. In the clinical practice of obesity treatment, acupoint catgut embedding therapy requires selecting appropriate acupoints based on the patient's constitutional characteristics and clinical manifestations. Commonly used acupoints include Zhongwan (CV12), Tianshu (ST25), Guanyuan (CV4), Qihai (CV6), Fenglong (ST40), and Sanyinjiao (SP6). In a study by Cao Chunmei *et al.*^[14], 240 patients were randomly divided into two groups: the treatment group received acupoint catgut embedding therapy, while the control group underwent conventional acupuncture treatment. The results showed that the total effective rate in the treatment group reached 94%, which was significantly higher than the 80% observed in the control group. Similarly, Liu Yanming *et al.*^[15] evenly allocated 80 patients into two groups: one group received acupoint catgut embedding therapy, and the other received conventional acupuncture. The final results revealed that the total effective rate in the catgut embedding group was 90%, markedly surpassing the 60% efficacy rate in the control group. Additionally, Sun Yunting *et al.*^[16] applied acupoint catgut embedding therapy to 120 patients and observed changes in weight, obesity degree, BMI, and lipid profiles across different TCM syndrome types. The results demonstrated the following total effective rates: 83.3% for spleen deficiency-dampness type, 93.3% for dampness-heat in stomach type, 82.0% for liver qi stagnation type, 64.2% for spleen-kidney deficiency type, and 41.7% for yin deficiency with internal heat type.

3.2 Combined therapies Herbal patching involves applying medicinal powders mixed into a paste to specific acupoints, achieving therapeutic effects through medicinal stimulation and transdermal absorption. Common herbal components include lotus leaf, hawthorn, *Alisma*, *Poria*, Cassia seed, and rhubarb, which exhibit lipid-reducing, diuretic, spleen-strengthening, dampness-resolving, and bowel-regulating properties. The herbal powder is formulated into a paste, evenly applied to acupoints, and left in place for 1–2 days per session, with one month of continuous use constituting a treatment course. Liang Xueyi^[17] and her team randomly and evenly divided 61 obese patients into a treatment group (herbal patching combined with acupuncture) and a control group (acupuncture plus non-medicated patching). Post-treatment com-

parisons revealed statistically significant improvements ($P < 0.05$) in weight, TCM symptom scores, BMI, and waist circumference in both groups. Further analysis showed statistically significant intergroup differences ($P < 0.05$) in all metrics except waist circumference improvement, which exhibited no significant disparity between groups. In the treatment group, 16 cases achieved marked effectiveness, 15 showed effectiveness, and none were ineffective, yielding a total effective rate of 100%. In contrast, the control group had 9 markedly effective cases, 17 effective cases, and 4 ineffective cases, with a total effective rate of 86.67%. This comparative result demonstrates that the combined therapy of herbal patching and acupuncture is more effective than acupuncture alone paired with non-medicated patching.

4 Conclusion

Multiple research findings demonstrate that TCM external treatments exhibit remarkable efficacy in obesity treatment. Compared to Western medical drug treatments, TCM external treatments offer advantages of fewer side effects, higher safety, and greater reliability. However, current research on the mechanisms of action of TCM external treatments remains insufficient, and their clinical application shows individual variations. Therefore, future efforts should focus on strengthening fundamental experimental research to investigate their mechanisms in depth, while further standardizing operational techniques to enhance clinical outcomes. Additionally, most existing studies are single-center or small-sample investigations, lacking broad representativeness. Future initiatives should actively promote multicenter, large-sample clinical studies to scientifically validate the efficacy and safety of TCM external treatments, thereby providing stronger evidence-based support for their clinical application.

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