

A Comparative Study on Intervention of Traditional Chinese Medicine Daoyinshu Combined with Ziwu Liuzhu Acupuncture on Blood Lipids and Inflammatory Factors in Obese Youth

Qian Sun

Physical Education Teaching and Research Section, Anhui Economic Management College, Hefei, Anhui 230032, China

Keywords: Daoyin surgery; Ziwu Liuzhu; acupuncture; obesity

Abstract: Objective: To observe the effect of Chinese medicine guidance combined with Ziwu Liuzhu acupuncture on blood lipids and inflammatory factors in obese youth. Methods: 46 obese college students were randomly divided into a control group and an observation group, with 23 cases in each group. The intervention group used TCM guidance combined with Ziwu Liuzhu acupuncture for 24 weeks of intervention. The practice sequence of Daoyin technique is 1-6 Friday Qin Xi, 7-12 weeks Ba Duan Jin, 13-18 weeks Yi Jin Jing, 19-24 Saturday Zi Jue. The practice time starts from a low starting load of 2-3 METs, and then increases in increments of 0.5-1.0 METs per week. The training time of the two groups of traditional Chinese medicine guidance surgery was 5d per week, 90min/time. Both groups did not participate in the intervention exercise on Saturday and Sunday, for a total of 24 weeks; the intervention group was provided by the deputy chief endocrinologist of Anhui Provincial Acupuncture Hospital Needle application, a total of four courses, 18 times per course (twice a week, 30 minutes each time, a total of 24 weeks). Results: After 24 weeks of treatment, the intervention group's blood lipid indexes (TG, TC, LDL-C, HDL-L) and inflammatory factor indexes (TNF- α , CRP, IL-6 and IL-18) were compared with those of the observation group, All decreased significantly, with statistical significance ($P < 0.05$). Conclusion: Daoyin surgery combined with Ziwu Liuzhu acupuncture can effectively improve the obesity of young people, and the method is highly maneuverable.

1. Introduction

In recent years, the decline in physical fitness and the increase in obesity among college students are closely related to dietary structure and sedentary activity [1]. In addition to obesity has a hidden impact on the health of college students: the incidence of diabetes, cardiovascular disease, metabolic syndrome and other diseases has increased significantly among young people. Obesity can also lead to psychological problems such as depression and loneliness, which will have a negative impact on college students' study, life and work. Therefore, how to control weight scientifically and effectively, and effectively reduce fat to maintain a well-balanced body shape has

become a hot topic for many obese college students. The adverse reactions caused by various rapid weight loss methods to lose weight have also been reported frequently. Therefore, seeking healthier weight loss methods with fewer side effects has gradually become the object of attention of obese people.

The treatment of obesity by traditional Chinese medicine acupuncture has been recorded in ancient medical literature. The main treatment principle is to regulate the balance of yin and yang of the body through the method of invigorating the deficiency or reducing the deficiency, so as to restore the body's metabolism to a normal state. Among many acupuncture methods, the Ziwu Liuzhu in the time acupuncture method is one of the more unique acupuncture methods.

Dou Hanqing's earliest point of view in "Guide to Acupuncture and Moxibustion", the article puts forward a treatment concept based on the combination of corresponding acupoints at different times. Compared with other methods of acupuncture and moxibustion treatment of obesity, the selection of the points of Ziwu Liuzhu should be combined with the matching of the corresponding time and different types of TCM constitutions, so as to ensure the accuracy and effectiveness of the treatment [2]. Exercise has always been considered as one of the effective ways to lose weight, but the current research on weight loss with exercise is mostly focused on resistance, aerobic and other western exercise methods. However, these exercises have a higher exercise risk for obese people and easily cause heart disease. And vascular sports risk events [3]. In addition, high-intensity exercise doses are poorly tolerated by obese people who lack exercise, and it is easy to interrupt the exercise plan, which will waste all previous efforts. Therefore, considering the cardiopulmonary function tolerance of obese people and the long-term smooth implementation of the exercise weight loss plan, this study uses a long-term stable weight loss method with less exercise risk as the starting point. At present, there are very few studies on the combination of TCM guidance and acupuncture as a means of weight loss. TCM Daoyin has a strong cultural connotation of oriental health preservation. It is simple and easy to learn, has low requirements for venues and equipment, and has low exercise risk. At the same time, it is quite popular in my country. Long-term exercise of Qigong stretches the joints and tendons of the human body, thereby further enhancing the muscle strength and fascia function of related parts, and essentially adjusting the internal and external balance of the human body. In this study, guided Chinese medicine combined with Ziwu Liuzhu acupuncture was used to intervene in the treatment of obese college students, and the clinical effects were explored by observing blood lipids and inflammation indicators, providing a valuable reference for effective treatment of obese patients.

2. Research methods

2.1. General Information

From September to October 2018, 70 undergraduates from freshmen to seniors were randomly selected from the physical health test data of Anhui University of Traditional Chinese Medicine, and then the researchers determined that they met the experimental intervention standards based on the inclusion criteria of the intervention study and the principle of voluntary (Taking obesity $\geq 20\%$, fat percentage $\geq 30\%$, body mass index (BMI) $\geq 25\text{Kg/m}^2$ and simple obesity, suitable for this exercise and capable of acupuncture as the inclusion criteria) 46 students will participate in the trial. College students were randomly divided into intervention group and control group at a ratio of 1:1. The intervention group was Yijinjing combined with Ziwu Liuzhu acupuncture, and the control group was Yijinjing exercises.

2.2. Intervention Plan

1) The teaching and training of the two groups of Chinese medicine guiding technique is guided by the Chinese medicine guiding technique teacher of the Sports Department of Anhui University of Traditional Chinese Medicine who is qualified as a national first-class social sports instructor. The order of practice is 1-6 Friday Qin Xi, 7-12 Zhou Ba Duan Jin, 13-18 Zhou Yi Jin Jing, 19-24 Saturday Word Jue. The practice time starts from a low starting load of 2-3 METs, and then increases in increments of 0.5-1.0 METs per week. The training time of the two groups of traditional Chinese medicine guidance surgery was 5d per week, 90min/time. Both groups did not participate in the intervention exercise on Saturday and Sunday, for a total of 24 weeks; the intervention group was provided by the deputy chief endocrinologist of Anhui Provincial Acupuncture Hospital Needle application, a total of four courses, 18 times per course (twice a week, 30 minutes each time, a total of 24 weeks). 2) The Ziwu Liuzhu intervention is based on the "Ziwu Liuzhu and Ziwu Liuzhu Computer Test Version" produced by Li Junyu, etc. to calculate the daily stems, and cooperate with the Ziwu Liuzhu, Before each injection, select the acupoints and the surrounding corresponding acupoints according to different times; then select the corresponding eight-pulse intersection points as the matching points: Neiguan-Gongsun, Houxi-Shenmai, Lieque-Zhaohai, Waiguan-Lin weep. After the patient gets Qi in all four needles, the corresponding main acupoints can be added through syndrome differentiation.

2.3 Observation Indicators

Before the intervention and at the end of 24 weeks, the subjects' body circumference, BMI index and blood biochemical data were collected. Body shape indicators include hip circumference, waist circumference, waist-to-hip ratio WHR and body fat percentage F (measured twice on the same part, and re-tested with an error of 5mm). The blood biochemical indexes were the same as those before the intervention and 24 weeks after the intervention. Blood samples from the left elbow vein of the test subjects were drawn in the morning on an empty stomach and submitted to the College of Acupuncture and Moxibustion, Anhui University of Traditional Chinese Medicine. The blood lipid indexes include: TG, TC, LDL-C, HDL-L . Inflammatory factors include: TNF- α , CRP, IL-6 and IL-18.

2.4 Data Processing

Use SPSS19.0 to perform statistical analysis on relevant indicators. All detection indicators are expressed by $\bar{X} \pm S$, and the difference between the two groups before and after the intervention data is analyzed by t test. $P < 0.05$ results have significant differences and statistical significance.

3. Results and Analysis

3.1. Comparison of Body Shape Indexes between the Two Groups before and after the Intervention of TCM Guidance Combined with Ziwu Liuzhu.

It can be seen from Table 1 that after 24 weeks of TCM guidance and Ziwu Liuzhu acupuncture intervention in the observation group, the weight of the two groups decreased by 5.7% and 2.7% compared with before the intervention. The decrease in body mass index was significant, and both groups had statistically significant ($P < 0.05$). However, the weight reduction effect of the observation group (Traditional Chinese Medicine Guidance combined with Ziwu Liuzhu) was better than that of the control group (Traditional Chinese Medicine Guidance Practice). There was a significant difference between the two groups, which was statistically significant ($P < 0.05$). After 24 weeks of intervention, the waist circumference of the two groups decreased by 4.6% and 2.6%,

respectively. There were significant differences within and between the two groups, which were statistically significant ($P<0.05$). The WHR of the two groups decreased by 0.03% and 0.01%, respectively. The waist-to-hip ratio of the observation group was significantly different after the intervention compared with before the intervention ($P<0.05$). The F% of the two groups decreased by 1.3% and 0.9%, BMI decreased by 1.8% and 1.1%, F% and BMI were significantly improved with statistical significance ($P<0.05$), and there was a significant difference between the two groups. Statistically significant ($P<0.05$).

Table 1 Comparison of body shape indexes between the two groups before and after 24 weeks of intervention

Item	Observation group (n=23)		Control group (n=23)	
	Before intervention	After intervention	Before intervention	After intervention
Weight (Kg)	73.93±7.90	70.41±4.10 [#]	74.43±6.33	72.95±4.23 ^{#△}
Waist	89.35±7.33	86.26±6.31 [#]	89.47±7.21	87.16±5.45 ^{#△}
Hipcircumference	100.21±5.33	100.11±4.13	101.13±2.11	99.83±4.23
WHR%	0.89	0.86 [#]	0.88	0.87
F%	33.28±4.13	28.71±3.24 [#]	32.93±4.65	29.68±4.16 ^{#△}
BMI(Kg/m ²)	27.82±1.33	25.51±1.39 [#]	27.88±2.16	26.18±1.18 ^{#△}

Note: [#] $P<0.05$, comparison within groups; [△] $P<0.05$, comparison between groups

3.2. Comparison of Four Indexes of Blood Lipids between the Two Groups before and after the Intervention of TCM Guidance Combined with Ziwu Liuzhu

It can be seen from Table 2 that TC, TG, LDL-C and HDL-C in the TCM guided surgery combined with Ziwu Liuzhu group decreased significantly ($P<0.05$), which was statistically significant; There was no significant change in TC and TG in the operation group, and no statistical significance ($P>0.05$). There were significant changes in LDL-C and HDL-C, and there was statistical significance ($P<0.05$); the TCM guidance combined with Ziwu Liuzhu group improved The effect of TG was better than that of TCM guidance group ($P<0.05$). There was no significant difference between the TC, LDL-C, HDL-C control group and the intervention group ($P>0.05$).

Table 2 Comparison of four blood lipid indexes of the two groups before and after 24 weeks of intervention

Item	Observation group (n=23)		Control group (n=23)	
	Before	After	Before	After

	intervention	intervention	intervention	intervention
TG(mmol/L)	0.96±0.24	0.73±0.18 [#]	0.98±0.57	0.81±0.62 [△]
TC(mmol/L)	4.39±0.54	3.71±0.51 [#]	4.33±0.41	3.97±0.44
LDL-C(mmol/L)	2.67±0.49	2.01±0.41 [#]	2.62±0.94	2.15±0.59 [#]
HDL-C(mmol/L)	1.39±0.39	1.66±0.42 [#]	1.49±0.43	1.68±0.58 [#]

Note: [#]P<0.05, comparison within groups; [△]P<0.05, comparison between groups

3.3 Comparison of Inflammatory Factor Indexes between the Two Groups before and after the Intervention of TCM Guidance Combined with Ziwu Liuzhu

It can be seen from Table 3 that before the intervention, there was no significant difference in the four inflammatory factors of TNF- α , CRP, IL-6 and IL-18 between the observation group and the control group (P>0.05); after 24 weeks of TCM After the intervention of Daoyin Surgery and Ziwu Liuzhu acupuncture, the two indexes of TNF- α and CRP in the observation group and the control group decreased significantly (P<0.05); IL-6 and IL-18 after intervention, The indexes of the two groups decreased significantly, with statistical significance (P<0.05). The improvement effect of IL-6 and IL-18 in the observation group was more obvious than that of the control group, with statistical significance (P<0.05).

Table 3 Comparison of inflammatory factor indexes between the two groups before and after 24 weeks of intervention

Item	Observation group (n=23)		Control group (n=23)	
	Before intervention	After intervention	Before intervention	After intervention
TNF- α (pg/mL)	31.38±9.12	24.68±8.17 [#]	31.55±0.44	26.48±8.18 [#]
CRP(pg/mL)	4.13±1.65	2.82±1.13 [#]	4.23±0.89	2.93±0.81 [#]
IL-6(pg/mL)	54.43±33.93	38.33±38.31 [#]	53.39±32.13	40.55±29.11 ^{#△}
IL-18(ng/L)	190.3±19.3	131.8±15.2 [#]	188.5±15.6	147.8±17.8 ^{#△}

Note: [#]P<0.05, comparison within groups; [△]P<0.05, comparison between groups

4. Discussion

Modern Chinese medicine has confirmed that adipose tissue is an energy storage and endocrine organ, and the adipocytokines secreted by it can cause inflammation in the body, leaving the body in a chronic low-grade inflammation state and lipid metabolism disorders for a long time. Chronic inflammation leads to insulin and the risk of diabetes increases dramatically [4]. Surveys show that the risk of diabetes in overweight or obese people is 80%-90% [5]. Therefore, the treatment and intervention of obesity cannot only adopt a single method, but a comprehensive analysis of symptoms and comprehensive diagnosis and treatment methods to reduce inflammation and restore lipid metabolism disorders to normal levels. Traditional sports TCM guidance can regulate yin and yang, relieve menstruation and blood, and enhance the function of viscera and organs. Long-term TCM guidance exercises can enhance blood vessel elasticity and local blood flow variables, promote extremity microcirculation, and improve central nervous system and plants. Nervous system regulation function. This lays the foundation for the treatment theory that acupuncture and Chinese medicine guide technique need to relieve the stomach and invigorate the spleen and take the meridians and acupoints related to the spleen and stomach when treating obesity. Ziwu Liuzhu acupuncture acupoints at Gongsun and Neiguan, and acupuncture at acupoints when the body's qi and blood is strong. At the same time, combined with the TCM guidance technique to regulate the triple energizer (upper, middle and lower triple energizer), it helps restore the balance of spleen and stomach functions. And then achieve weight loss effect.

The clinic will diagnose obesity based on the comprehensive assessment of BMI, FAT%, WHR% and body weight. Among them, the BMI index is one of the important factors that cause obesity and related chronic diseases [6]. In this study, after 24 weeks of intervention, the body shape indicators of the observation group and the control group decreased significantly. It shows that the practice of Ziwu Liuzhu acupuncture combined with TCM Daoyin has a certain intervention effect on obesity, but the effect of the pure TCM Daoyin practice group is worse than that of the combined Ziwu Liuzhu group.

The increase of TG, TC, HDL-C and LDL-C index in blood lipid indexes is a high correlation factor of atherosclerosis, hypertension and potential insulin resistance risk [7]. Exercise will increase the secretion of catecholamines in the body to accelerate fat oxidation and effectively improve insulin sensitivity, reducing the risk of diabetes treatment [8]. In this study, after 24 weeks of intervention in the observation group and the control group, the four blood lipid indexes of the observation group and the control group decreased significantly, but the blood lipid indexes of the observation group changed more significantly.

Serum TNF- α and 30% IL-6 are derived from adipose tissue. The reduction of TNF- α level is an obvious indicator of body fat reduction and improves pancreatin resistance. IL-6, CRP levels, body fat content and body mass index height Related [9]. Among them, IL-6 has pleiotropic effects. When there is inflammation in the body, IL-6 will produce pro-inflammatory effects and accelerate the development of inflammation. Therefore, IL-6 is an important indicator of inflammation in the body. IL-18 participates in the development of atherosclerosis and increases the instability of atherosclerosis [10]. In this study, the blood inflammatory factor indexes of the two groups were improved after intervention, but the intervention effect of the control group was worse than that of the observation group, and the IL-18 level of the observation group was better than that of the control group.

5. Conclusion

Based on the above, it can be concluded that after 24 weeks of TCM guidance exercises combined with Ziwu Liuzhu can reduce the weight of obese college students, improve their body shape, and have positive significance in improving blood lipids and blood inflammation indicators. The weight

loss effect of the Liuzhu group is better than that of the simple TCM guidance practice group. This suggests that TCM guidance combined with TCM acupuncture has a better intervention effect in weight loss treatment, and its method is simple and suitable for promotion.

References

- [1] Qingwei Z, Guixin H, Lin L. (2020). *Combined acupuncture and moxibustion for weight loss treatment to reverse obese cardiomyopathy. Electronic Journal of Integrated Traditional Chinese and Western Medicine Cardiovascular Diseases*, 5 (32): 136.
- [2] Weiqiong G, Jie H, Yifei Z, et al. (2019) *Changes in serum pro-inflammatory cytokine interleukin 18 levels in obese women. Chinese Journal of Diabetes*, 18(2): 112-114.
- [3] Mu W, Weiming W, Tianyuan Y. (2013) *Literature analysis of the rule of point selection for simple obesity treatment with catgut embedding at acupoints Journal of Acupuncture and Moxibustion*, 29(3): 60-62.
- [5] Ying L, Lidan L. (2020) *Research progress on the etiology and risk factors of adult obesity Modern Clinical Nursing*, 11(5): 82-84.
- [6] Daoming W, Shiquan D. (2019) *The effect of exercise on blood lipids, peroxides and vascular endothelial function Journal of Tonghua Teachers College (Natural Science)*, 35(2): 112-114.
- [7] Shaoyun A, Ling W, et al. (2018) *Clinical observation of 80 cases of simple obesity treated with acupuncture method of reassignment and dredging supervision New Chinese Medicine*, 47(2): 191-192.
- [8] Hongxia L. (2017) *Observation on the clinical efficacy of backshu acupoints combined with conventional acupoints in the treatment of simple obesity Asia-Pacific Traditional Medicine*, (09): 86-87.
- [9] Zhi L. (2018) *Observation on the curative effect of acupuncture on 100 cases of simple obesity Beijing Traditional Chinese Medicine*, 31(2): 125.
- [10] Yue Z, Yang Z, et al.(2017) *Clinical observation on the treatment of postpartum obesity by Yuna Tongjing massage China Maternal and Child Health Care*, 29(35): 5939-5940.