

Research Article

Analysis on Regulation and Intervention Strategies of Emotional Therapy in Traditional Chinese Medicine for Depressive Mood

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Abstract

Emotional therapy of traditional Chinese medicine emphasizes the influence of emotional factors on the body, and realizes emotional regulation by resolving and eliminating bad emotions and changing individual ideological cognition. The pre-test and post-test design of a single group was adopted, and the control group was not set up. The reason was that the intervention scheme of Emotional Therapy in Traditional Chinese Medicine emotional therapy had strong individualized characteristics. Six intervention methods (emotional mutual victory method, obedience + speech enlightenment method, five-element music therapy, behavioral exercise therapy, essence-shifting and qi-transforming method, massage acupoint method) needed to be flexibly adjusted according to the specific state of the subjects, and it was difficult to achieve standardized matching of intervention measures between the control group and the experimental group. The core focus is on verifying the intervention effect of Emotional Therapy in Traditional Chinese Medicine emotional therapy itself on the severe depression group, rather than comparing the advantages and disadvantages of different therapies. The pre-and post-test of a single group can more directly observe the changes of indicators before and after intervention. In this study, through the Beck Depression Scale, 169 patients with severe depression, several patients with moderate depression and 373 patients with mild depression were screened from 542 questionnaires. Finally, 169 patients with severe depression were selected as the research subjects, including 76 males and 93 females, 100 medical majors and 69 non-medical majors. The subjects were treated with the above six kinds of traditional Chinese medicine emotional therapy twice a week for one month. After the intervention, the Beck Depression Scale and the emotional face recognition task were retested. The results showed that there was a significant difference in the degree of depression between the medical and non-medical groups in 169 subjects with severe depression. Before the intervention, there was a significant positive correlation between the total score of depression and the number of face recognition errors. After intervention, both indicators were significantly reduced. Conclusion: 1. Medical students' depression is lower than that of non-medical students, and the intervention effect of traditional Chinese medicine emotional therapy on medical students is better; 2. Traditional Chinese medicine emotional therapy can effectively alleviate the degree of depression in patients with severe depression, reduce the number of facial recognition errors, and improve the treatment of depression.

Keywords

Emotional Therapy in Traditional Chinese Medicine, Depressed Mood, Intervention Strategies

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1. Introduction

Emotional Therapy in Traditional Chinese Medicine advocates the balance of Yin and Yang, positing that disharmony of essence, Qi, Yin, and Yang in the five Zang-organs leads to abnormal emotional changes [1, 2]. As recorded in *Su Wen Tiaojing Lun* ("Plain Questions Treatise on Regulating Meridians"): "Excess blood causes anger; insufficiency causes fear," and *Lei Jing Disease Category Emotional Nine Qi* ("Classified Canon Disease Category Nine Qi from Emotions"): "The five emotions are governed by the heart," indicating an intimate connection between the essence of the five Zang-organs and emotional activities. In Emotional Therapy in Traditional Chinese Medicine, "emotions" refer to mental and emotional activities, evolved from *Nei Jing* ("Yellow Emperor's Internal Classic"), often referred to as the "Seven Emotions" or "Five Emotions." The Seven Emotions—joy, anger, worry, thought, sorrow, fear, and shock—are responses of Zang-organ functions to external stimuli. Emotional Therapy in Traditional Chinese Medicine psychology holds that mental illnesses are primarily caused by the Seven Emotions; excessive excitement or suppression of emotions disrupts the flow of Qi, imbalances blood circulation, and disturbs the Yin-Yang harmony of Zang-organs, leading to illness, known as "internal injury by the Seven Emotions" [3]. The Five Emotions—joy, anger, thought, sorrow, and fear—are categorized according to the Five Elements and originate from the five Zang-organs. "Emotions" and "aspirations" arise from the Qi transformation of Zang-organs, functioning to regulate Qi flow while being influenced by changes in Zang-organ Yin-Yang, Qi movement, and external stimuli [4]. The Seven Emotions are manifestations of Zang-organ essence responding to the external world, and Zang-organ essence provides the physiological foundation for emotional activities [5]. This close relationship enables Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy to effectively address psychological issues, with common methods including Emotional Counteraction Therapy, Desire-Accommodation Therapy, Verbal Guidance Therapy, Five-Element Music Therapy, Behavioral Exercise Therapy, Essence-Transformation and Qi-Regulation Therapy, and Acupuncture-Massage Therapy.

Research on Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy includes theoretical integration [6] and applied studies [7, 8-25]. Among applied studies, the regulation of negative emotions such as depression and anxiety is the most extensively explored.

Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy demonstrates favorable efficacy in improving and regulating depressed mood. Qiu Yali randomly divided 80 post-stroke depression patients into a control group (receiving conventional neurology treatment) and a treatment group (conventional treatment combined with Emotional Counteraction Therapy). Results showed that Emotional

Counteraction Therapy promoted neurological function recovery and alleviated depressive symptoms, effectively improving post-stroke depression and facilitating neurological rehabilitation [26]. Zhang Qi et al. applied Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy—including Desire-Accommodation, Remove doubts, Emotional Counteraction, Essence-Transformation and Qi-Regulation, and Suggestion-Induction—in the treatment of post-traumatic stress disorder (The following name PTSD), highlighting the value of traditional Emotional Therapy in Traditional Chinese Medicine in PTSD treatment and the need for further clinical validation [27]. Wu Bin et al. randomly assigned 72 breast cancer patients to a control group (receiving conventional health education) and an experimental group (receiving Emotional Therapy in Traditional Chinese Medicine-specific emotional therapy). Pre- and post-intervention observations revealed that Emotional Therapy in Traditional Chinese Medicine emotional therapy reduced perioperative psychological stress responses and improved clinical outcomes in early breast cancer patients [28]. Ai Chunqi et al. matched depression etiologies with musical scales, classifying patients into 5 types (e.g., liver Qi stagnation type treated with vibrant melodies, heart-spleen deficiency type with robust melodies, Qi stagnation and phlegm obstruction type with jiao-mode and gong-mode music) for clinical treatment, achieving favorable results [29].

Although the existing research has verified the effectiveness of Emotional Therapy in Traditional Chinese Medicine emotional therapy in the regulation of depression in different diseases, it focuses more on the application and exploration of single disease or single therapy technology, and has not yet realized the systematic integration of multiple emotional therapy and the common law mining of cross-disease, and the research on the adaptation mechanism and standardized application path of therapy is insufficient. Based on the existing research foundation, this study attempts for the first time to integrate classical emotional therapy techniques such as emotional win-win, emotional obedience, and temperament and mind regulation, and construct a multi-dimensional integrated intervention program to break through the research limitations of single therapy and single disease. At the same time, this study combines the theory of Emotional Therapy in Traditional Chinese Medicine syndrome differentiation and modern psychological evaluation system to explore the precise adaptation relationship between depression and emotional therapy of different syndrome types, and fills the research gap in the precise application of emotional therapy. This study comprehensively verifies the intervention effect of integrated emotional therapy, and tries to construct a standardized intervention process that can be replicated and promoted to regulate depression in Emotional Therapy in Traditional Chinese Medicine emotional therapy, so as to provide new research ideas

and practical basis for the clinical standardized application and interdisciplinary development of Emotional Therapy in Traditional Chinese Medicine emotional therapy, and promote the development of Emotional Therapy in Traditional Chinese Medicine emotional therapy from empirical application to scientific and accurate development.

Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy exhibits significant efficacy, safety, reliability, and ease of operation in regulating depressed mood. Building on previous research, this study employs the Beck Depression Inventory and Emotional Facial Recognition Task to assess the efficacy of Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy in individuals with high levels of depressed mood, aiming to establish and refine intervention strategies. The Emotional Therapy in Traditional Chinese Medicine emotional-regulation methods adopted include Emotional Counteraction Therapy, Desire-Accommodation Combined with Verbal Guidance Therapy, Five-Element Music Therapy, Behavioral Exercise Therapy, Essence-Transformation and Qi-Regulation Therapy, and Acupoint Massage Therapy.

2 Methods

2.1. Participants

Beck depression scale was distributed to college students of different majors and grades in the whole school, and 5 yuan of labor service was completed. A total of 542 valid questionnaires were collected, including 268 boys; there were 274 girls. According to the screening method of Beck depression scale; the total score of 0-13 points without depression; 14-19 is divided into mild depression; 20-28 is divided into moderate depression; 29-63 is severe depression. 169 patients with major depression were screened out from 542 questionnaires. There were 373 people with mild depression and 373 people with moderate depression. There were 169 people with severe depression in this study, including 76 boys and 93 girls. 100 of them majored in medicine; there were 69 non-medical students.

2.2. Instruments

2.2.1. Beck Depression Inventory (BDI)

The Beck Depression Inventory, developed by American psychologist Beck AT in the 1960s, consists of 21 items. Each item includes 4 statements rated on a scale, with participants

circling the number corresponding to their feelings over the past week. The total score is the sum of all item scores, with cutoffs as follows: 0-13 (no depression), 14-19 (mild depression), 20-28 (moderate depression), and 29-63 (severe depression). The internal consistency reliability coefficient is 0.8, the reliability coefficient is the classic verification result of BDI (including BDI-1A and BDI-II revisions) in decades of cross-population and cross-study. It is obtained by the Beck team and the subsequent standardized validity verification research in the field of global psychology and psychiatry. It is the general reliability reference value of the scale. BDI has undergone two core revisions: BDI (1961, initial version), BDI-1A (1978, simplified version), and BDI-II (1996, revised version, currently the most common). Among them, the validity verification of BDI-II is the most systematic and widely used. The following validity values are based on BDI-II (the initial version of BDI is slightly lower and has been rarely used). All classical validity values are derived from the original validation study of Beck's team, and the validity indicators all meet the excellent standards of psychometrics (≥ 0.7).

2.2.2. Emotional Facial Recognition Task

Considering the different cognitive processes of face recognition in different ethnic groups, the subjects participating in this intervention are all Chinese students, so the emotional face recognition task experiment selected 70 negative emotional faces, 70 positive emotional faces and 70 neutral emotional faces in the Chinese emotional picture system. The Chinese emotional face system has a total of 870 Chinese facial emotional pictures of 7 emotional types such as anger, disgust, and fear. The emotional face pictures are all from 100 college students. The male to female ratio is 1: 1, and the average age is 22.6 years old. And the emotional type of each picture has been evaluated for emotional intensity. The evaluation intensity is 1-9 scores, 1 is the weakest, 9 is the strongest.

The experiment adopted a block design, comprising 42 blocks (21 blocks for facial emotion recognition, with 5 trials per block) and random rest periods of 15-25 seconds between blocks. Participants sat in a soundproof laboratory with soft lighting, facing a computer monitor, with stimuli presented at the center. Each trial began with a white cross fixation point (500 ms), followed by an emotional facial image (positive, neutral, or negative, presented for 3000 ms). Participants were instructed to press the "1" key for positive expressions, "2" for neutral expressions, and "3" for negative expressions using response keys.

Examples of experimental materials are shown in [Figure 1](#):

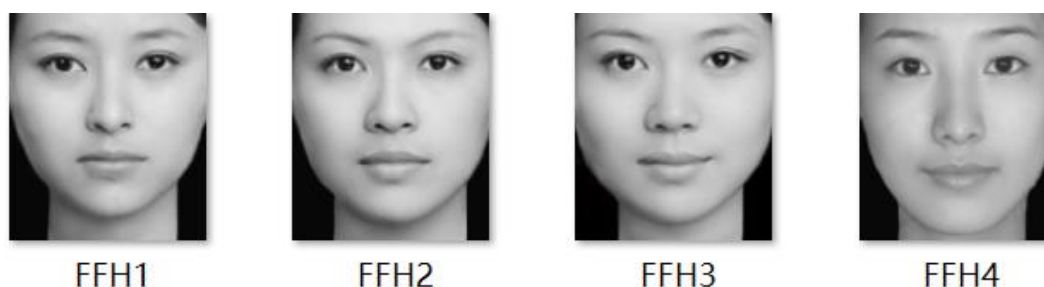


Figure 1. Examples of Experimental Materials.

The flow of a single trial is shown in **Figure 2**:

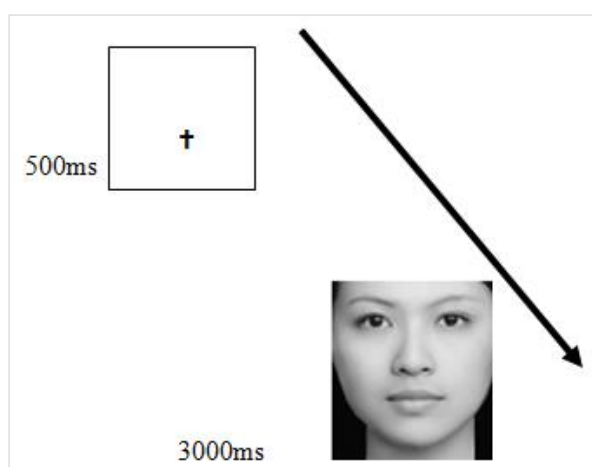


Figure 2. Flowchart of a Single Trial.

2.3. Procedures

The Beck Depression Inventory was distributed across the university, with cash rewards for participants. Based on BDI criteria, 169 severely depressed individuals (76 males, 93 females; 100 medical majors, 69 non-medical majors) were screened from 542 valid questionnaires.

Participants completed the Emotional Facial Recognition Task, with accuracy and reaction time recorded as outcome measures. The recruitment of research samples adheres to the principle of voluntary participation. The researchers inform all the research objects in detail about the core information such as research purpose, intervention method, research process, potential benefits and risks, data use mode and privacy protection measures in an easy-to-understand way. After the research objects fully understand and have no objection, they sign the written informed consent form. In the process of research, the core rights of the research object, such as informed consent right, privacy right and independent exit right, are guaranteed. All sample information is anonymized, and the relevant data is only used for the analysis of this research, strictly abide by the principle of confidentiality.

Based on the theoretical system and clinical application paradigm of traditional Chinese medicine emotional therapy, this study set up six traditional Chinese medicine emotional intervention groups. The intervention methods were emotional mutual victory method group, emotional obedience combined with speech guidance method group, five-element music therapy group, behavioral exercise therapy group, transfer essence and change qi method group, and massage acupoint therapy group. The study included 169 subjects identified by standardized screening in the previous study. All subjects were equally assigned to the above six intervention groups in strict accordance with the principle of randomization, without additional control types such as blank control group and placebo control group. All the subjects received standardized Emotional Therapy in Traditional Chinese Medicine emotional intervention for one month. The frequency of intervention was twice a week, and the duration of single intervention was controlled at 30-60 minutes, and the duration and frequency of intervention in each group were consistent. In this study, there was no comparative analysis of the efficacy of 6 kinds of Emotional Therapy in Traditional Chinese Medicine emotional intervention methods.

In this study, the control group was not designed. The core

reason is that the research focuses on the clinical application implementation path and practical exploration of different intervention methods in the Emotional Therapy in Traditional Chinese Medicine emotional therapy system, rather than verifying the difference in the efficacy of Emotional Therapy in Traditional Chinese Medicine emotional therapy compared with non-intervention / conventional intervention. The original intention of the study is to explore the adaptability, operation norms and implementation points of each emotional intervention method in clinical landing. There is no need to verify the efficacy through the control form, so various control groups are not set up.

This study did not compare the 6 kinds of Emotional Therapy in Traditional Chinese Medicine emotional intervention methods between groups. The reason is that the 6 kinds of intervention methods are all classic interventions in the system of TCM emotional therapy. The theoretical core is derived from the core ideas of Emotional Therapy in Traditional Chinese Medicine emotions, the five internal organs, and the unity of form and spirit. The intervention targets and the dimensions of action have their own suitability--or starting from the core logic of emotional regulation, or from the perspective of physical and mental coordination, or from the shape and quality of meridians and acupoints. Treatment is not an alternative under the same intervention dimension, and Emotional Therapy in Traditional Chinese Medicine emotional therapy is based on clinical practice.

Post-intervention, Participants Recompleted the BDI and Emotional Facial Recognition Task.

2.4. Intervention Protocols

The effectiveness of the six intervention methods, namely, the method of mutual victory of emotions, the method of obeying emotions and desires + speech guidance, the five-element music therapy, the behavioral exercise therapy, the method of removing essence and changing qi, and the massage 'acupoint' method, was evaluated by the experts of traditional Chinese medicine and psychology. Through the collaborative verification and normative control of the two-disciplinary experts from the whole dimension of theory, scheme, practical operation and adaptability, it is realized that the experts of traditional Chinese medicine focus on verifying the compliance of each method with the core theories of traditional Chinese medicine, such as emotion, five elements, zang-fu organs, meridians and collaterals, so as to ensure the orthodoxy and adaptability of syndrome differentiation, regulation, principle, method, prescription and medicine (technique), and control the intervention intensity, dose and operation standard. Avoid the risk of injury; psychological experts verified its compatibility with the theories of emotional regulation, cognitive reconstruction, physical and mental interaction, behavioral activation and other theories of modern clinical psychology, reviewed the humanistic principles of intervention design, standardized operation process, and quantifiable target effects,

to ensure that the intervention method conforms to psychological acceptance and no stress risk; at the same time, the dual-disciplinary experts jointly demonstrate and optimize the applicable population, intervention scenarios, and implementation processes of each method, so that the emotional antagonism of the emotion-will competition method, the relief cognition of the obedience-desire + speech-enlightenment method, the five-tone adjustment of the five-element music therapy, the dynamic shape adjustment of the behavioral exercise therapy, the attention transfer of the essence-shifting and qi-changing method, and the meridian adjustment of the massage 'acupoint' method not only adhere to the core characteristics of Emotional Therapy in Traditional Chinese Medicine emotional intervention, but also fit the scientific standards of modern psychological intervention. From the underlying logic to the practical implementation, the unity of theoretical scientificity, program feasibility, implementation safety and effectiveness is realized. Finally, the effectiveness and reliability of the six intervention methods in clinical application are guaranteed.

2.4.1. Emotional Counteraction Therapy

Guided by the core principle of "joy counteracting sorrow" in Emotional Counteraction Therapy, participants were presented with 10 video clips. Brief introductions (e.g., whether the clip was an animation) were provided, and participants were encouraged to select unviewed clips. Clip changes were allowed during viewing. After watching, participants were instructed to recall joyful events ("Please recall all events that brought you joy or happiness, regardless of when they occurred") and re-experience positive emotions. Researchers discussed commonalities between the video clips and participants' joyful memories, guiding them to reflect on their current lives and providing emotional support. Each session lasted 40-60 minutes.

2.4.2. Desire-Accommodation Combined with Verbal Guidance Therapy

Desire-Accommodation Therapy aims to meet basic needs by eliminating or reducing external pathogenic factors. Combined with relaxation training, this method uses verbal communication for emotional counseling based on participants' psychological states. Participants sat in relaxation chairs, adjusted to a comfortable position, and engaged in meditation guided by prompts to achieve awareness, focus, and relaxation. Verbal guidance was provided to address participants' expressed concerns. Each session lasted approximately 40-60 minutes.

2.4.3. Five-Element Music Therapy

Five-Element Music Therapy integrates the Five Elements' generation and restriction theory with the five musical scales (jiao, zhi, gong, shang, yu), regulating Zang-organ Qi and

blood through adjustments to rhythm, tone, harmony, and accompaniment to promote health and treat illness.

Selected music for each scale:

Gong-mode (spleen belongs to Earth; emotion: thought): *Guangming Xing* ("Bright Journey"), *Sai Long Duo Jin* ("Dragon Boat Race"), *Kong Shan Niao Yu* ("Birds Singing in Empty Mountains"), *Huang Ting Jiao Yang* ("Sunshine Over Huangting"), *Hong Qi Song* ("Ode to the Red Flag"), *Cai Yun Zhui Yue* ("Colorful Clouds Chasing the Moon"), *Ping Hu Qiu Yue* ("Autumn Moon Over the Calm Lake"), *Liang Xiao* ("Peaceful Night"), *Qiu Hu Yue Ye* ("Autumn Lake Moonlit Night"), *Cao Yuan Zhi Ye* ("Grassland Night"), *Ba Wang Xie Jia* ("Overlord Removes His Armor"), *Man Ting Fang* ("Full Courtyard Fragrance"), *Xian Ju Yin* ("Recluse's Melody"), *Gao Shan Liu Shui* ("High Mountains and Flowing Water"), *Ma Lan Kai Hua* ("Malan Blossoms"), *Yue Er Gao* ("High Moon").

Shang-mode (lung belongs to Metal; emotion: worry): *Chang Qing* ("Eternal Purity"), *He Ming Jiu Gao* ("Crane Crying Over the Nine Marshes"), *Yang Guan San Die* ("Three Refrains of Yangguan"), *Ai Le* ("Funeral March"), *Yin Si Qiang* ("Yinsi Tune"), *Jiang Jun Ling* ("General's Command"), *Xiao Xiang Shui Yun* ("Mist and Clouds Over Xiao and Xiang Rivers"), *Kai Gu Yin* ("Ode to Antiquity").

Jiao-mode (liver belongs to Wood; emotion: anger): *Chun Feng De Yi* ("Spring Breeze Brings Joy"), *Jiangnan Sizhu Yue* ("Jiangnan Silk and Bamboo Music"), *Jiangnan Hao* ("Beautiful Jiangnan"), *Ni Shang Qu* ("Rainbow Feather Song"), *Cao Mu Qing Qing* ("Green Grass and Trees"), *Yi Li Xia Tu Wan Dan Shou* ("One Seed Sown, Ten Thousand Bushels Harvested"), *Hong He De Chun Tian* ("Spring by the Red River"), *Lie Zi Yu Feng* ("Liezi Riding the Wind"), *Zhuang Zhou Meng Die* ("Zhuangzi Dreaming of a Butterfly"), *Lü Ye Ying Feng* ("Green Leaves Dancing in the Wind"), *Xing Jie* ("Walking Street"), *Hu Jia Shi Ba Pai* ("Eighteen Beats of the Hujia Flute"), *Chun Zhi Sheng Yuan Wu Qu* ("Spring Melody Waltz").

Zhi-mode (heart belongs to Fire; emotion: joy): *Bu Bu Gao* ("Stepping Higher"), *Zi Zhu Diao* ("Purple Bamboo Tune"), *Liu Yang He* ("Liuyang River"), *Xi Xiang Feng* ("Happy Encounter"), *Chu Shui Lian* ("Lotus Emerging from Water"), *Yu Zhou Chang Wan* ("Fisherman's Song at Dusk"), *Chun Jie Xu Qu* ("Spring Festival Overture"), *Kuang Huan* ("Carnival"), *Qiao Ge* ("Woodcutter's Song"), *Yu Ge* ("Fisherman's Song"), *Cai Cha Wu Qu* ("Tea-Picking Dance"), *Su Wu Mu Yang* ("Su Wu Herding Sheep"), *Hua Jie Xu Qu* ("Flower Festival Overture"), *Mo Li Hua* ("Jasmine Flower"), *Xiao Bai Cai* ("Little Cabbage"), *Hua Hao Yue Yuan* ("Beautiful Flowers and Full Moon"), *Jin She Kuang Wu* ("Golden Snake Dance").

Yu-mode (kidney belongs to Water; emotion: fear): *Zhao Jun Yuan* ("Lament of Zhaojun"), *Han Ya Xi Shui* ("Cold Crows Playing in Water"), *Fei Hua Dian Cui* ("Flying Flowers Adorning Emeralds"), *Wu Ye Ti* ("Crow Crying at Night"), *Zhi Chao Fei* ("Pheasant Flying at Dawn"), *Xiao He Tang Shui* ("Little River Flowing"), *Han Jiang Can Yue* ("Cold River and

Remnant Moon"), *Chun Jiang Hua Yue Ye* ("Spring River Moonlit Night"), *Jiang He Shui* ("River Water"), *Ga Da Mei Lin* ("Gada Meilin").

Interventions lasted 4 weeks, with 2 sessions per week (40-60 minutes per session). Music selection for each session followed a Latin square design to ensure balanced exposure to the five scales.

2.4.4. Behavioral Exercise Therapy

Exercise was based on *Health Qigong Baduanjin* ("Eight-Section Brocade") issued by the General Administration of Sport of China, including the following movements: Preparatory Form, Two Hands Holding the Heavens to Regulate the Triple Burner, Left and Right Drawing the Bow Like Shooting an Eagle, Regulating the Spleen and Stomach by Lifting One Hand, Looking Back to Relieve Five Fatigues and Seven Injuries, Shaking the Head and Wagging the Tail to Reduce Heart Fire, Clasp the Hands and Bending Forward to Strengthen the Kidneys and Waist, Making Fists and Glaring to Enhance Strength, Seven Jumps Behind to Cure All Diseases, and Closing Form. Professional instructors taught the movements, with participants initially focusing on mimicking and gradually refining form accuracy. Video materials were provided to each participant. Each session lasted 40-60 minutes (10 minutes of warm-up, 40 minutes of practice, 5 minutes of cool-down), conducted twice a week for 4 consecutive weeks. The optimal effect was defined as mild sweating and a sense of Qi abundance.

2.4.5. Essence-Transformation and Qi-Regulation Therapy

This method improves health by adjusting mental state and Qi flow, comprising two components:

Qi-Regulation: Mindful breathing meditation and the Six-Word Formula (a breathing technique involving six syllables—xi, he, hu, xu, chui, xi—with distinct mouth shapes and articulations to stimulate the flow of Qi in different Zang-organs and meridians).

Preparatory Form: Stand with feet shoulder-width apart, head upright, neck straight, chest slightly contracted, back stretched, waist and hips relaxed, knees slightly bent, body relaxed, and breathing natural.

Breathing Method: Abdominal breathing (exhalation followed by inhalation), pronouncing the syllable during exhalation, while contracting the anus and kidneys, and shifting weight to the heels.

Qi Regulation: After pronouncing each syllable six times, rest briefly to restore natural breathing.

Each intervention involved 2 repetitions, lasting 40-60 minutes.

Essence-Transformation: Art therapy, guiding participants to focus on the creative process. Participants were provided with white sketchbooks, paper, and drawing tools, and could

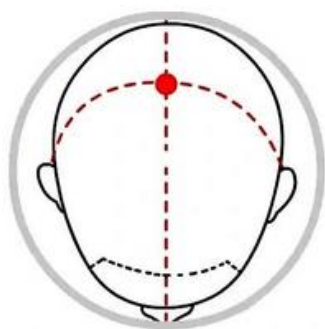
choose to color or draw freely to redirect attention and regulate emotions. Each session lasted 40-60 minutes.

2.4.6. Acupoint Massage for Mind Regulation

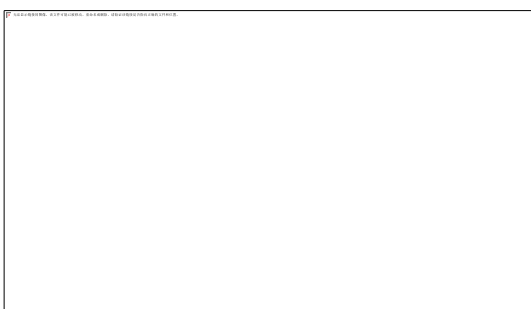
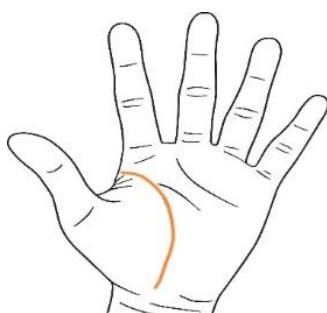
Participants sat in relaxation chairs, maintaining a relaxed state. Massage was administered in the following order: Baihui (GV20) → Yintang (EX-HN3) → Taiyang (EX-HN5) → Fengchi (GB20) → Jianjing (GB21, left then right) → Tanzhong (CV17) → Shenmen (HT7) → Neiguan (PC6). Each

acupoint was massaged for 2 minutes, with a total of 20 minutes per set. A 5-minute rest was provided between sets, totaling 40-60 minutes per session. Strict gender matching was enforced (male therapists for male participants, female therapists for female participants).

Baihui (GV20): Located at the midpoint of the line connecting the apexes of the two ears. Massage techniques: pressing, rotating, tapping, kneading, tapping lightly, and pinching.



Rotary grinding: Rotary grinding with palm to Baihui



Strike: with fingertips or small thenar Beat on the side



Press the acupoint with the thumb's belly and rotate in a clockwise direction.



Gently tap the Baihui point with a hollow palm, 10 times each time

Figure 3. *Massage Atlas of Baihui Point.*

Yintang (EX-HN3): Located between the eyebrows. Massage technique: pressing with the pads of the thumb, index, and middle fingers.



Tap with thumb and index finger, middle finger pulp.

Taiyang (EX-HN5): Located at the temple region. Massage technique: gentle circular pressing with the index and middle fingers at a moderate pace.



With your index finger and middle finger gently press the bilateral temple area, with moderate strength, in the form of a circle massage.

Figure 4. *Massage atlas of Yintang point.*

Fengchi (GB20): Located below the occipital bone, level with Fengfu (GV16), in the depression between the sternocleidomastoid and trapezius muscles. Massage techniques:

pinching and lifting the posterior cervical muscles with the thumb and index finger, moving downward rhythmically; pressing with the thumb and index finger.

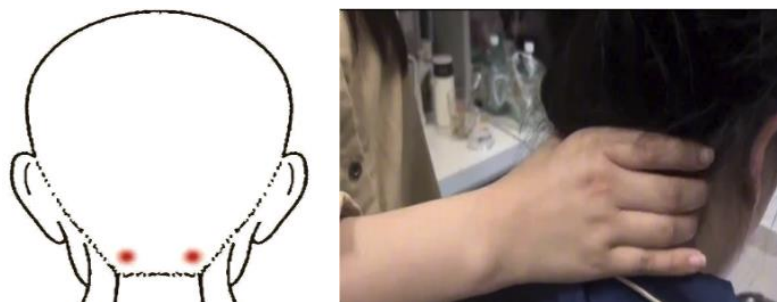


Figure 5. Atlas of Fengchi massage.

Jianjing (GB21): Located at the midpoint of the line connecting Dazhui (GV14) and the acromion, the highest point of the shoulder. Massage technique: pinching and lifting the tendons at Jianjing with the thumb, index, and middle fingers, gradually releasing.



Tendons at jianjing point of tuina shoulder

Figure 6. Massage atlas of Jianjing point.

Tanzhong (CV17): Located on the midline of the chest, level with the 4th intercostal space, at the midpoint of the line connecting the two nipples. Massage techniques: kneading with the thumb or middle finger in gentle circular motions;

circular rubbing with the four fingers (excluding the thumb); scraping with the pads of both thumbs from the inner upper to outer lower direction, optionally using water or vegetable oil as a medium until purplish-red ecchymoses appear.

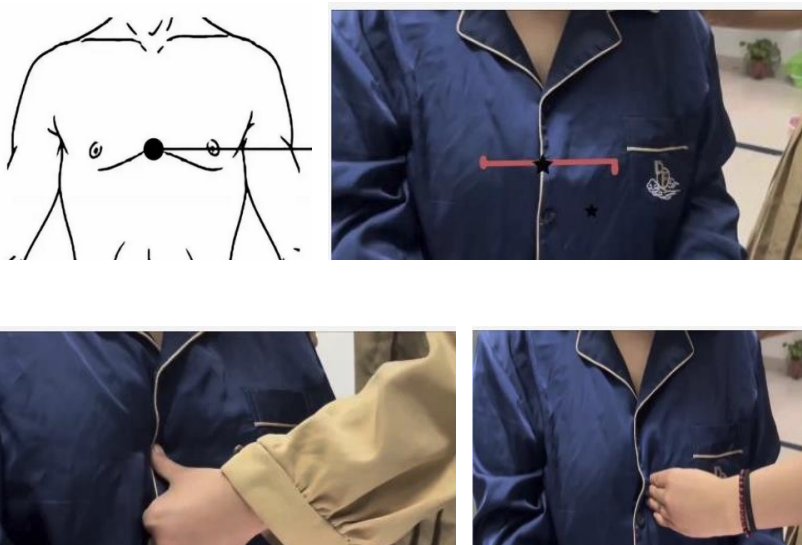


Figure 7. Massage atlas of Tanzhong acupoint.

Shenmen (HT7): Located at the ulnar end of the transverse crease of the wrist, in the depression on the radial side of the flexor carpi ulnaris tendon. Massage techniques: pinching with the thumbnail (combined with kneading to mitigate stimulation, applied vertically without scratching the skin); gentle

circular kneading with the thumb or middle finger; pressing vertically with the finger pad or interphalangeal joint, gradually increasing pressure to the participant's tolerance.

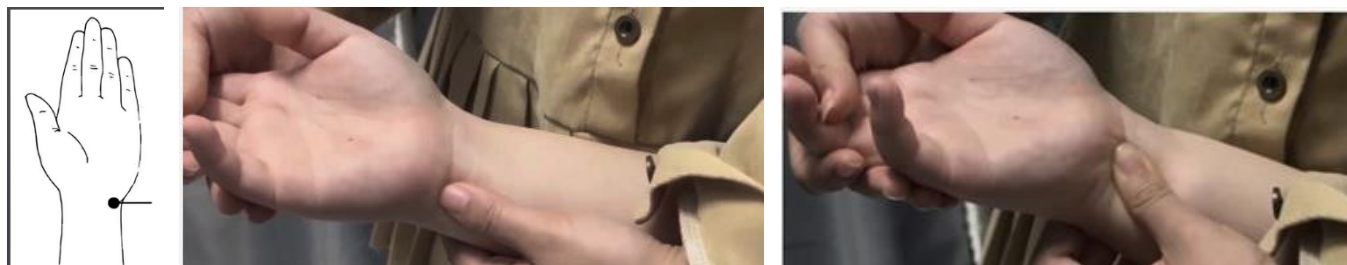


Figure 8. Massage Atlas of Shenmen Point.

Neiguan (PC6): Located on the palmar side of the forearm, on the line connecting Quze (PC3) and Daling (PC7), 2 cun above the wrist crease, between the palmaris longus and flexor

carpi radialis tendons. Massage techniques: continuous pressing with the thumb for 1-2 minutes; circular kneading with the thumb at a comfortable intensity.

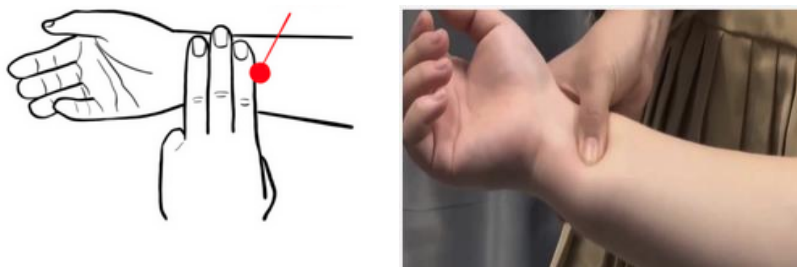


Figure 9. Massage Atlas of Neiguan Point.

3 Results

3.1. BDI Data Results

Among the 169 severely depressed participants, there was a significant difference in total depression scores between medical majors (100 participants) and non-medical majors (69 participants) ($t=5.148$, $P=0.025 < 0.1$), with non-medical students exhibiting higher depression severity. No significant gender difference was observed (males: 76, females: 93; $t=0.079$, $P=0.799$).

Pre- and post-intervention comparisons showed that the mean total depression score decreased significantly for both genders: males (pre: 36.32, post: 27.01) and females (pre: 36.33, post: 26.94). No significant gender difference was found post-intervention ($t=0.004$, $P=0.947$), indicating consistent intervention effects across genders.

For medical majors, the mean total depression score de-

creased from 35.42 (pre-intervention) to 26.86 (post-intervention); for non-medical majors, the score decreased from 37.64 to 27.13. A significant post-intervention difference was observed between the two groups ($t=11.083$, $P=0.001 < 0.1$), with medical students showing lower depression scores and better intervention outcomes.

3.2. Emotional Facial Recognition Task Data Results

No significant gender difference in facial recognition accuracy was observed pre-intervention; however, a significant difference emerged post-intervention, with males demonstrating a greater improvement in accuracy than females ($F=8.948$, $P=0.003 < 0.1$). No significant difference in accuracy was found between medical and non-medical majors pre- or post-intervention.

Pre-intervention, facial recognition accuracy was significantly negatively correlated with total depression scores across genders ($r=-0.271$, $P=0.000 < 0.001$) and majors ($r=-$

0.271, $P=0.000 < 0.001$), indicating that higher depression severity was associated with lower recognition accuracy. No significant correlation was observed post-intervention.

3.3. Correlation Between Depression Scores and Emotional Facial Recognition

Pre-intervention, a significant correlation was found between the number of facial recognition errors and total depression scores ($t=12.589$, $P=0.000 < 0.001$). Post-intervention,

this correlation was no longer significant ($t=1.138$, $P=0.257 > 0.01$), suggesting that reduced depression severity was accompanied by fewer facial recognition errors and diminished negative cognition.

3.4. Principal Component Analysis Results

Principal component analysis was conducted on pre- and post-intervention facial recognition error rates and total depression scores (Figure 10).

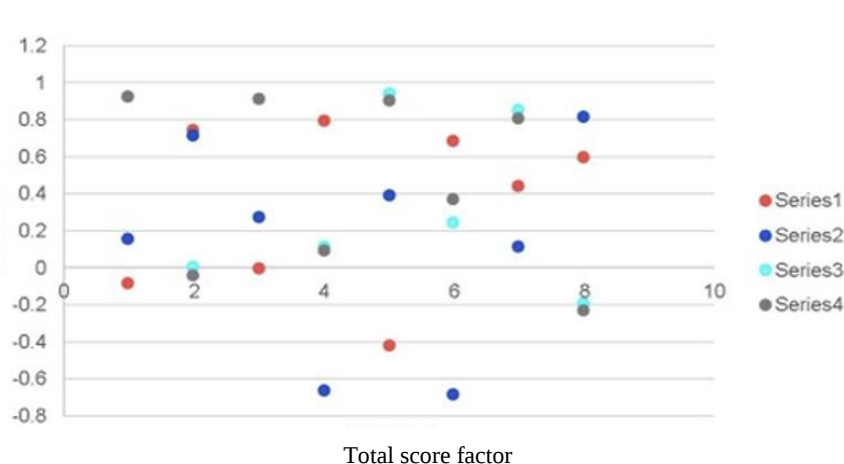


Figure 10. Principal Component Loading Plot (Note: Series 1 - Male; Series 2 - Female; Series 3 - Medical Major; Series 4 - Non-Medical Major).

Figure 10: Principal Component Load Diagram

The horizontal axis represents Component 1 (depression score factor), and the vertical axis represents Component 2 (facial recognition error rate factor). Pre- and post-intervention total depression scores showed high loadings on Component 1 (>0.9) and near-zero loadings on Component 2, indicating that depression scores were primarily explained by Component 1 and highly correlated with facial recognition errors. Pre- and post-intervention facial recognition error rates showed high loadings on Component 2 (>0.7) and low loadings on Component 1, indicating that error rates were primarily explained by Component 2 and closely correlated.

The mean pre-intervention principal component score was 2.35 ± 0.82 , and the mean post-intervention score was 0.72 ± 0.51 ($t=8.96$, $P < 0.001$), demonstrating a significant improvement in the state of "severe depressed mood + high facial recognition errors" post-intervention and confirming the overall effectiveness of the interventions.

4. Discussion

4.1. Discussion on BDI Data Results

The significant difference in depression severity between medical and non-medical majors may be attributed to medical

students' knowledge of health science, which enables them to better understand physical health and regulate emotions through diet and lifestyle modifications [30]. Research on depression and brain science indicates that brain function and neurotransmitters are key factors influencing emotions [31], and emotions can be regulated through diet and behavior [32]. No significant gender difference in severe depression severity was observed, as participants were pre-screened to meet the criteria for severe depression.

Both genders showed significant reductions in total depression scores post-intervention, indicating that all six Emotional Therapy in Traditional Chinese Medicine emotional-regulation methods effectively alleviated depressed mood with consistent effects across genders. Similarly, both medical and non-medical majors exhibited reduced depression severity post-intervention [33].

4.2. Discussion on Emotional Facial Recognition Task Data Results

No pre-intervention gender difference in facial recognition accuracy was observed, but a significant post-intervention difference emerged, with males showing greater improvements. Despite similar reductions in depression scores for both genders, males may have developed more rational and positive

perceptions of the external world, potentially due to the male brain's tendency toward rational thinking. No significant differences in mean reaction time were found across genders or majors, suggesting that perceptual speed does not affect the judgment of facial emotion; instead, individual anxiety levels influence the perception of external stimuli, with higher anxiety associated with more negative facial emotion recognition [34, 35].

The significant negative correlation between pre-intervention facial recognition accuracy and depression scores across genders and majors indicates that higher depression severity is associated with lower recognition accuracy, reflecting a tendency to interpret facial expressions as negative and process external information in a negative manner [36].

4.3. Discussion on the Correlation Between Depression Scores and Emotional Facial Recognition

Post-intervention improvements in facial recognition accuracy suggest that reduced depression severity enhanced positive perception and reduced negative perception of facial expressions [37]. Prior to intervention, severely depressed participants were more likely to misclassify neutral expressions as negative and positive expressions as neutral, increasing error rates. Post-intervention, participants demonstrated more objective and positive recognition of facial emotions, reducing errors. Conversely, the Emotional Facial Recognition Task may be used to screen emotional states. In this study, initial screening via the BDI was validated by the facial recognition task, confirming that severely depressed participants exhibited heightened negative emotions.

4.4. Discussion on Principal Component Analysis Results

The six Emotional Therapy in Traditional Chinese Medicine emotional-regulation methods were effective in reducing both depression scores and facial recognition errors. Pre-intervention, high facial recognition error rates among severely depressed participants indicated a tendency toward negative facial emotion cognition, reflecting the impact of depressed mood on cognitive function. Post-intervention, the loading coefficient for depression scores decreased significantly from 0.8 to 0.3, and the loading coefficient for facial recognition errors decreased from 0.7 to 0.2, indicating reduced depression severity and improved facial recognition ability. These interventions simultaneously targeted "emotion" and "cognition," enhancing the differentiation of "cognition-emotion," improving depressed mood, and enhancing facial recognition ability. Overall, the interventions transformed participants from a state of "severe depressed mood + high facial recognition errors" to "alleviated depressed mood + low facial recognition errors," achieving synergistic improvement.

The results of this study have good generalization. The research samples are evenly distributed and widely representative in demographic characteristics such as age, gender and cultural background, as well as clinical characteristics such as Emotional Therapy in Traditional Chinese Medicine emotional syndrome type, emotional problem type and severity. The subjects covered the core characteristics of the target research population, without excessive homogenization limitations. The six Emotional Therapy in Traditional Chinese Medicine psychological intervention methods used in the study were all standardized by bidisciplinary experts. The intervention plan formulation has both the characteristics of Emotional Therapy in Traditional Chinese Medicine syndrome differentiation and the standardization requirements of modern psychology. The implementation process, operation points, intensity and dose are clear and reproducible, and the implementation subject qualification requirements and intervention supporting conditions are in line with the actual situation of clinical and community routine professional medical / psychological service scenarios, which is easy to implement in similar scenarios.

5. Conclusions

Medical students exhibit lower depression severity than non-medical students, and Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy yields better intervention effects in medical students.

Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy alleviates depression severity, reduces facial recognition errors, and diminishes negative cognition toward the external world.

Emotional Therapy in Traditional Chinese Medicine emotional-regulation therapy significantly improves the state of "severe depressed mood + high facial recognition errors" in severely depressed individuals.

Abbreviations

BDI	Beck Depression Inventory
TCM	Emotional Therapy of Traditional Chinese MEDICINE

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Conflicts of Interest

The authors declare no conflicts of interest.

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