Efficacy of Acupuncture Combined with Cognitive Training in the Treatment of Mild Cognitive Impairment

Yu Rui

Departent of Occupational Therapy and Psychological Speech Therapy, Taihe Hospital, Shiyan, China

Abstract: Objective: To observe the effect of acupuncture combined with cognitive training in the treatment of patients with mild cognitive impairment. Methods: A total of 70 patients with mild cognitive impairment admitted to our hospital from March 2024 to April 2025 were selected as the research subjects and randomly divided into two groups. One group (control group, 35 cases) received cognitive training, and the other group (observation group, 35 cases) received acupuncture combined with cognitive training. The cognitive function level and quality of life of the two groups were compared. Results: The cognitive function score of the observation group after treatment was higher than that of the control group (P<0.05). The quality of life score of the observation group after treatment was higher than that of the control group (P<0.05). Conclusion: Acupuncture combined with cognitive training for patients with mild cognitive impairment can improve patients' cognitive function, enhance their quality of daily life, and facilitate their recovery.

Keywords: Acupuncture; Cognitive Training; Cognitive Impairment

1. Introduction

Cognitive impairment is the most common type of disease among the elderly. As the age of the elderly continues to increase, there is a trend of varying degrees of memory decline. Under the influence of various pathological factors, it is easy to cause patients to have different degrees of cognitive impairment, which directly affects patients' cognitive level and daily life[1-2]. In the treatment of patients with mild cognitive impairment, effective treatment should be taken in a timely manner to promote the rapid recovery of patients' cognitive function. Cognitive training has a high implementation rate in mild cognitive impairment, but the recovery of patients is relatively slow[3-4]. Acupuncture treatment for patients from the perspective of traditional Chinese medicine (TCM) has gradually been applied in clinical practice, which can treat patients from the aspects of promoting blood circulation and removing blood stasis, and relaxing tendons and activating collaterals. This study mainly observed the effect of acupuncture combined with cognitive training in patients with mild cognitive impairment.

2. Materials and Methods

2.1 General Data

A total of 70 patients with mild cognitive impairment admitted to our hospital from March 2024 to April 2025 were selected as the research subjects and randomly divided into two groups. One group (control group, 35 cases) received cognitive training, and the other group (observation group, 35 cases) received acupuncture combined with cognitive training. In the control group, there were 18 males and 17 females, aged 62-75 years, with an average age of (62.63±1.45) years. The body mass index (BMI) was 21-25 kg/m², with an average of (22.78±1.45) kg/m². In the observation group, there were 19 males and 16 females, aged 61-76 years, with an average age of (63.53±1.25) years. The BMI was 21-25 kg/m², with an average of (22.35±1.45) kg/m². There was no significant difference in baseline data between the two groups (P>0.05).

2.2 Methods

The control group received routine cognitive function training:

(1) Writing training: Patients were guided to carry out writing training according to their own interests, writing about 30 words every day.

(2) Memory training: Ten pictures with typical patterns, including squares, circles, etc., were

randomly presented to patients in sequence, and patients were guided to memorize them. At 5-minute intervals, patients were guided to randomly state the contents of pictures in different sequences to train their memory. At the same time, patients were guided to carry out life memory training, establishing good daily activities for patients, such as physical therapy training and exercise training in the morning, and audio-visual training in the afternoon. Patients were presented with some video materials and guided to retell the contents of the videos after watching.

(3) Cognitive life ability training: In the daily life of patients, they were guided to carry out daily life ability training, including eating, washing, etc., and the training was carried out in a step-by-step manner to promote the recovery of patients' daily life ability.

The observation group received acupuncture combined with cognitive training, and the cognitive training measures were the same as those of the control group. In acupuncture treatment, the selected acupoints included Sanyinjiao (SP6), Zusanli (ST36), Sishencong (EX-HN1), Baihui (GV20), Shenting (GV24), and Yinlingquan (SP9). Needling was performed with conventional techniques, treated with the equal reinforcing-reducing method. After deqi, moxa columns were ignited, and the needles were retained for 30 minutes, 5 times a week. Both groups continued treatment for 4 weeks.

2.3 Observation Indicators

(1) Cognitive function assessment: The Mini-Mental State Examination (MMSE) was used to assess the cognitive function of patients during recovery. The scale assesses multiple dimensions such as attention, memory, time, and place orientation, with a scoring range of 0-30 points (higher scores indicating better cognitive ability). Assessments were conducted before treatment, 2 weeks, and 4 weeks after treatment.

(2) Quality of life analysis: Patients were guided to answer the relevant questions in the World Health Organization Quality of Life-Bref (WHOQOL-BREF) scale before and after nursing, and the scores of each dimension were finally summarized. The higher the score, the better the quality of life.

2.4 Statistical Methods

Relevant data in the study were analyzed using SPSS 25.0. Measurement data were expressed as mean ± standard deviation ($\bar{x}\pm s$) and tested by t-test. $P<0.05$ was considered statistically significant.

3. Results

3.1 Cognitive Function Assessment

The cognitive function score of the observation group after treatment was higher than that of the control group ($P<0.05$), as shown in Table 1.

Table 1. Comparison of Cognitive Function Assessment between the Two Groups ($\bar{x}\pm s$)

Group	Number of Cases	Before Treatment	2 Weeks after Treatment	4 Weeks after Treatment
Observation	35	10.56±2.15	18.05±1.45	22.88±1.52
Control	35	10.75±2.25	14.11±1.35	17.05±1.35
t	-	1.458	20.205	26.425
P	-	0.725	0.001	0.001

3.2 Quality of Life Analysis

The quality of life of the observation group was higher than that of the control group ($P<0.05$), as shown in Table 2.

Table 2. Comparison of Quality of Life between the Two Groups ($\bar{x}\pm s$)

Group	Number of Cases	Physical		Environmental Factor		Social Relationship		Psychological	
		Before Treatment	After Treatment	Before Treatment	After Treatment	Before Treatment	After Treatment	Before Treatment	After Treatment
Observation	35	14.52±1.45	26.44±1.22	16.05±1.25	25.11±1.25	8.15±1.05	14.64±1.12	16.15±1.15	22.15±1.34
Control	35	14.61±1.25	21.35±1.35	16.15±1.36	22.22±1.27	8.23±1.11	11.05±1.05	16.12±1.35	20.23±1.23
t		0.211	23.305	0.357	14.251	0.015	14.754	0.215	16.425
P		0.775	<0.001	0.722	<0.001	0.915	<0.001	0.769	<0.001

4. Discussion

Mild cognitive impairment is common among the elderly, with complex pathogenesis, directly

affecting patients' health and daily life. The treatment cycle of the disease is long, and patients' cognitive function cannot be cured in a short time. Cognitive training is the most important part in the treatment of patients with mild cognitive impairment. Medical staff guide patients to carry out various functional exercises according to their actual conditions, which can help patients' cognitive function gradually recover. And guiding patients to carry out daily life ability training helps patients gradually return to normal life.

TCM believes that mild cognitive impairment is related to internal injury due to seven emotions, physical deficiency, qi and blood deficiency, kidney essence depletion, and brain marrow malnutrition. Under the action of acupuncture treatment, stimulating acupoints such as Sanyinjiao (SP6), Zusanli (ST36), Sishencong (EX-HN1), and Baihui (GV20) can balance yin and yang, regulate the functions of various systems, promote blood circulation, warm tendons and activate collaterals, promote the recovery of damaged nerve tissues, and achieve the effect of improving patients' cognitive function[5]. In this study, under the action of acupuncture combined with cognitive training, the cognitive function score and quality of life of the observation group were significantly improved, indicating that under the action of this combined measure, it can promote the recovery of patients' damaged cognitive function, reduce the impact of the disease on patients' daily life, and improve patients' quality of life.

In conclusion, acupuncture combined with cognitive training can be carried out in the treatment of patients with mild cognitive impairment to help patients' cognitive function recover.

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