

Analysis of the Efficacy of High-frequency Repetitive Transcranial Magnetic Stimulation Therapy Combined with General Acupuncture in the Treatment of Postpartum Depression

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Abstract: Objective: To analyze the effect of postpartum depression treated with high-frequency repetitive transcranial magnetic stimulation combined with general acupuncture. Methods: Screening 45 patients with postpartum depression diagnosed in our hospital during the period from August 2019 to August 2022 as study subjects, according to the treatment plan chosen by the patients, we included 22 patients who received conventional conservative medication into the control group, and then 23 patients who received high-frequency repetitive cranial magnetic stimulation combined with general acupuncture into the observation group, followed by the Postpartum Depression Assessment Scale (EPDS) to assess the extent of the condition of the patients in both groups before and after treatment, and finally to observe the symptom performance of the patients in both groups before and after treatment, as so as to evaluate the efficacy. Results: After the treatment, the EPDS scores of patients in both groups were significantly reduced, but the EPDS scores of patients in the observation group were significantly lower than those in the control group ($P < 0.05$); the clinical symptoms of patients in the observation group improved significantly after the treatment, and the overall treatment effect was better than that of the control group ($P < 0.05$). Conclusion: High-frequency repetitive transcranial magnetic stimulation therapy combined with general acupuncture, this treatment has a better therapeutic effect on postpartum depression, with strong clinical application value, and it has the significance of promoting reference.

Keywords: Repetitive transcranial magnetic stimulation, General acupuncture, Combined treatment, Postpartum depression, Effect analysis.

1. Introduction

Postpartum depression is a psychiatric disorder that occurs after childbirth in women with the main clinical manifestations of depressed mood, few words, irritability, worry and sleep disturbance. The analysis may be related to the large changes in women's hormone levels after childbirth. In addition, the lack of ability to adapt to the role upgrade after childbirth, coupled with the lack of sleep for newborns and many household chores, which may lead to the emotional breakdown of the mother, if there is no outlet, which can easily lead to the formation of postpartum depression. Because of the low level of awareness of mental illness in China, postpartum irritability, depression and agitation can be misunderstood by people around the mother, including the mother herself, and lead to the development of the illness. Postpartum depression is a very dangerous disease for the mother, the newborn and the mother's family. In recent years, as the clinical reports of postpartum depression gradually increase, the disease has been widely paid attention to, and our hospital has been proven to be effective in treating postpartum depression with repetitive cranial magnetic stimulation and traditional Chinese acupuncture therapy. Now we will report the specific implementation operation as follows [1].

2. Materials and Methods

2.1. Basic information

Forty-five patients with postpartum depression diagnosed in our hospital during the period from August 2019 to August

2022 were screened as study subjects, the group was divided into a control group and an observation group according to the treatment plan. There were 22 patients in the control group, aged 22-37 years, mean age (28.27 ± 4.18) years, 13 primiparous and 9 transitional mothers, with a mean of (30.71 ± 4.15) d. There were 23 patients in the observation group, aged 23-40 years, mean age (29.17 ± 3.72) years, 12 primiparous and 11 transitional mothers. In the observation group, there were 23 patients, aged 23-40 years, mean age (29.17 ± 3.72), 12 in primigravida and 11 in peripartum, with a mean of (32.16 ± 3.84) d from 25-46 d before delivery. All patients in both groups had full-term deliveries with good fetal birth evaluations. None of the patients had a history of previous psychiatric disorders or treatment, no family history of genetic predisposition or allergy to relevant drugs, and no combined somatic organ or tissue damage or organic lesions were detected [2].

2.2. Methods

Patients in the control group were treated with conservative medication. Patients were prescribed fluoxetine (Lilly Suzhou Pharmaceutical Co., Ltd.) and instructed to take an initial dose of 20 mg/d. If there was no significant discomfort, the dose could be increased appropriately, but not to exceed the maximum dose of 40 mg/d. 7 d was a course of treatment for 4 consecutive courses, during which the patients were instructed to suspend breastfeeding. During this period, patients should pay attention to increase the rest time and ensure sufficient sleep.

Patients in the observation group were treated with repeated transcranial magnetic stimulation combined with

general acupuncture. Transcranial magnetic stimulation treatment: the treatment was carried out in a clean, quiet, dark room with appropriate temperature and humidity, and the instrument was Magstim Rapid transcranial magnetic stimulation therapy instrument manufactured by Magstim, USA. The motor threshold and the stimulation area of the dorsolateral prefrontal cortical area should be determined during the first treatment. Treatment parameters: frequency of 10 Hz, magnetic field strength of 90% of motor threshold, number of strings of 80, 20 stimulations per string, interval of 20 s, total of 1600 stimulations, 1 time/d; 5 times/week, 20 times for 4 weeks. The patients in this group were also treated with general acupuncture, selecting Baihui point, Si Shen Cong point, Neiguan point, Taichong point, Hegu point, Sanyinjiao point, and Feosanli point as acupuncture points, after local sterilization with sterilized TCM acupuncture needling method of flat tonic and flat diarrhea, retaining the needles for 30 min, 1 time/d, 5 times/week, for a total of 2 times for 4 weeks of continuous treatment [3].

2.3. Observation Index

The Edinburgh Postnatal Depression Scale (EPDS), which was used to assess the degree of postnatal depression in both groups, was administered before and after treatment. The EPDS is a self-reported scale containing 10 items, each item is rated on a 4-point scale from 0 to 3. A total score above 13 is considered as postpartum depression, and the higher the score, the more severe the depression is.

2.4. Efficacy Evaluation Criteria

Patients with symptoms such as depressed mood,

irritability, little speech and sleep disorder disappeared, and the reduction of EPDS scores was more than 75% was considered effective; patients with significant improvement in the above clinical symptoms and the reduction of EPDS scores between 50% and 75% was considered effective; patients with no significant change in the above symptoms compared with those before treatment, and the reduction of EPDS scores less than 50% was considered ineffective [4].

2.5. Statistical Analysis

The study data were uniformly analyzed and processed using SPSS 23.0 statistical software. The EPDS scale scores of patients in the observation indexes were expressed as mean \pm standard deviation, t-test, and the efficacy indexes were expressed as %, X² test, and P<0.05 was considered a statistically significant difference.

3. Result

3.1. Comparison of Depression Levels of Patients in the Two Groups before and after Treatment

After treatment, the EPDS scores of patients in both groups decreased significantly, but compared with the control group, the improvement of EPDS scores of patients in the observation group was more significant, and the difference between the data of the groups was statistically significant (P<0.05), see Table 1 for details [5].

Table 1. EPDS scores of patients in the observation and control groups before and after treatment

Group	Before treatment	After treatment
Control group (n=22)	14.27 \pm 2.57	7.89 \pm 1.53
Observation group (n=23)	13.85 \pm 2.44	5.47 \pm 1.39
t	1.045	4.291
P	>0.05	<0.05

3.2. Clinical Efficacy

The significant rate of treatment in the observation group was higher than that in the control group (P<0.05), and the

efficiency rate of the two groups was comparable (P>0.05), while the inefficiency rate was significantly lower in the observation group than in the control group (P<0.05), as detailed in Table 2.

Table 2. Comparison of treatment effects between patients in the observation and control groups

Group	Show effect	Effective	Invalid
Control group (n=22)	6 (27.27)	11 (50.00)	4 (18.18)
Observation group (n=23)	10 (43.48)	12 (52.17)	1 (4.35)
X ²	6.119	1.152	4.273
P	<0.05	>0.05	<0.05

4. Discussion

Postpartum depression is a common complication of the puerperium, which has an extremely bad impact on maternal mental health and the establishment of emotional cognition in the newborn. In recent years, with the opening of the second and third child policies, the rate of obstetric admissions has increased greatly, and the number of postpartum depressions

has also increased. The conventional clinical response to postpartum depression is to give antidepressant medication, but it has been clinically proven that patients have varying degrees of dependence on medication. In addition, patients with postpartum depression are advised to suspend breastfeeding during medication, which has a negative impact on postpartum recovery and scientific feeding. In recent years, significant progress has been made in the study of non-

pharmacological treatment based on the electrophysiological changes in the brain of postpartum depressed patients, and transcranial magnetic stimulation combined with general acupuncture has been proven to have significant therapeutic effect on postpartum depression in our hospital.

The study showed that 23 patients in the observation group treated with high-frequency repetitive transcranial magnetic stimulation combined with general acupuncture, they showed a significant improvement in postpartum depression scores and symptoms compared to 22 patients in the control group treated with conventional medication. High-frequency repetitive transcranial magnetic stimulation increases cortical excitability by changing the excitation threshold, thereby reducing the adverse electrophysiological changes in the brain caused by depression and combating depression, while the acupuncture points selected for acupuncture treatment in this study can promote the functional regulation of the neural, endocrine and immune systems and activate mentally active brain tissue regions, thereby achieving the inhibitory effect on depression, anxiety and other adverse psychiatric conditions and realizing the therapeutic effect. High-frequency transcranial stimulation combined with acupuncture treatment is simple and convenient, which can greatly reduce the adverse effects of drug treatment, and then help patients

get rid of depressive symptoms as soon as possible, and eventually achieve recovery from the disease.

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