

Evaluation of the application effect of dancing therapy in the rehabilitation process of schizophrenic patients

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Abstract: Objective is to explore the application effect of dancing therapy in the rehabilitation process of patients with schizophrenia. Methods: From January to December 2021, 60 patients with schizophrenia in the rehabilitation period of Chongqing Mental Health Center were selected and divided into the control group and the study group, with 30 cases in each group. The control group was given routine hospital rehabilitation, while the study group was given dance therapy on this basis. The psychological state, self-efficacy, mental rehabilitation effect and social function of the two groups were compared. Results: Before the intervention, there was no significant difference in psychological state, self-efficacy, mental rehabilitation effect and social function between the two groups ($P > 0.05$); After the intervention, the psychological status score of the study group was lower than that of the control group, and the self-efficacy, mental rehabilitation effect and social function score of the study group were higher than that of the control group, and the differences were statistically significant ($P < 0.05$). Conclusion Dance therapy can not only promote the recovery of mental state, self-efficacy and social function, but also improve the effect of mental rehabilitation.

1. Introduction

Schizophrenia is a common mental disorder. According to data, the number of schizophrenia patients diagnosed in China reached 7.8 million in 2012, and it continues to grow^[1]. The conventional treatment of schizophrenia is to use drugs for treatment. Clinical experience studies have shown that in the treatment of schizophrenia, the "positive symptoms" are relieved better, but the recovery effect on the "negative symptoms", excitement and hostility, anxiety and depression is weak, and drug treatment also brings some adverse reactions. Examples include weight gain, tremors, muscle stiffness, etc. Dance therapy refers to a kind of psychotherapy in which rehabilitation therapists use dance or improvisation to release tension, express emotional needs and improve people's minds^[2]. Dance therapy is very cross-cutting. It includes psychotherapy, creative dance and Laban movement analysis, as well as music therapy, drama therapy and neurobiology (including mirror neurons, etc.). This multidisciplinary and multi-element intersection combines art and science effectively^[3]. Therefore, it is more effective in the treatment of "negative symptoms",

excitement and hostility, anxiety and depression and other symptoms. However, this approach is rarely used in the treatment of patients with schizophrenia during recovery. Therefore, in order to verify the application effect of dance therapy in the rehabilitation process of patients with schizophrenia, this study selected 60 patients with schizophrenia during the rehabilitation period in Chongqing Mental Health Center from January to December 2021, and reported as follows:

2. Literature and Methods

2.1. General Information

A total of 60 patients with schizophrenia during rehabilitation in Chongqing Mental Health Center from January to December 2021 were selected. The 60 patients were randomly divided into the control group and the study group, with 30 cases in each group. There were 17 males and 13 females in the study group. The mean age was (34.00 ± 8.65) years (range, 22-52 years). The disease duration was 2-6 years, with an average of (3.93 ± 1.43) years. There were 16 males and 14 females in the control group. The average age was (38.50 ± 8.39) years (20-50 years). The disease duration was 2-5 years, with an average of (3.52 ± 1.02) years. There was no significant difference in general data between the two groups ($P > 0.05$).

2.2. Methods

The control group received routine treatment, including drug treatment and recreational therapy activities. The drug treatment used the conventional drugs for patients with schizophrenia, and recreational therapy activities mainly included singing, outdoor walking, basketball sports, doing health exercises, baking, manual training, etc.

The study group was given dance therapy on the basis of conventional treatment, once a week, 100 minutes each time. Dancing-therapy procedures are detailed as follows:

- ① Dance - limb warm-up (10 minutes) : under the leadership of dance therapist, patients with schizophrenia in turn briefly introduce themselves, and choose a dance movement to represent themselves, after the interpretation of other patients with schizophrenia to follow the learning movement, and one by one to move the body together, so that the atmosphere began to be active.
- ② Dance - physiological awakening (10 minutes) : After the warm-up of the limbs, with light music, interesting music and folk music for relaxation, under the guidance of dance therapists, to help patients with schizophrenia muscle relaxation and thinking meditation, gradually wake up the patient's past memories, and guide patients with schizophrenia will emerge in the mind of the relevant content to describe, feeling memories of the happy and sad. After limb warm-up and meditation, the purpose of physiological arousal, in which the limb and mind are awakened at the same time, is achieved.
- ③ Dancing-movement empathy (10 minutes) : Dance therapist through speech and personal demonstration, encourage and guide patients with schizophrenia according to their own description of the content, the use of physical movement to show, so that the content of the thought with the body improvisation, want to jump, not restricted to the appearance of the movement, the mind to release the ideas, so as to achieve movement empathy.
- ④ Dance - follow one's heart (40 minutes) : The dance therapist selects music, such as interesting music, folk music or foreign related therapy music, with a series of characteristic props, under the guidance of the dance therapist, the patients with schizophrenia sing and dance according to one's will with the rhythm of the music, to vent their emotions and achieve the unity of body and mind.
- ⑤ Dancing and Sharing summary (30 minutes) : First, after the dance therapy, the dance therapist asked the schizophrenic patients to share their dancing feelings and difficulties encountered in the treatment process in turn,

and gave them comments and guidance. Secondly, patients with schizophrenia were asked to vote for three patients who would represent their own theme dance movements to share with everyone, and to talk about the insights in the process of dance treatment. Finally, the dance therapist summarized the dance therapy, and gave support and encouragement to the patient for each participation.

2.3. Observation indicators and evaluation criteria

The psychological state, self-efficacy and mental rehabilitation effect of the study group and the control group before and after intervention were compared. ① Psychological state (PANSS)^[4]: PANSS scale was used to evaluate positive and negative symptoms, which was divided into 4 subscales: positive symptoms, negative symptoms, excitement and hostility, anxiety and depression. The higher the score of each item, the worse the mental state. ② Self-efficacy^[5]: the higher the score of GSES, the stronger the self-efficacy. ③ Mental rehabilitation effect (IPROS)^[6]: the evaluation indicators include treatment, health status, life skills, social ability, etc. The total score is 100, and the higher the score is, the better the rehabilitation effect is. ④ Social functioning: SF-36 developed by the Medical Outcomes Research Group was used to assess the physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotional and mental health^[7]. The final score was equal to the sum of each dimension divided by 8, the higher the score, the healthier.

2.4. Statistical methods

SPSS 22.0 statistical software was used for data analysis, and the data were measured as follows ($\bar{x} \pm s$). The t test was used for comparison between groups. Count data were expressed as [n (%)], and comparison between groups was analyzed using the chi-square test. $P < 0.05$ was considered statistically significant.

3. Results of measurement

3.1. PANSS score

Table 1: Comparison of PANSS scores between the two groups ($\bar{x} \pm s$, points)

Psychological status	Research Group	Control group	t	p
Positive symptoms				
Before the intervention	38.11 ±3.98	37.95 ±4.12	-0.331	0.833
After the intervention	15.11 ±2.77	22.32 ±3.81	-17.293	0.000
t(P)	18.320(0.000)	15.872(0.000)		
Negative symptoms				
Before the intervention	14.22 ±3.10	14.98 ±3.85	0.112	0.727
After the intervention	4.55 ±2.38	11.32 ±2.91	-21.826	0.000
t(P)	16.172(0.000)	10.313(0.000)		
Excited hostility				
Before the intervention	17.32 ±3.24	16.35 ±4.41	1.422	0.648
After the intervention	6.36 ±1.58	11.02 ±5.02	-19.809	0.000
t(P)	22.439(0.000)	19.596(0.000)		
Anxiety and depression				
Before the intervention	16.32 ±2.18	17.33 ±3.98	0.992	0.589
After the intervention	3.42 ±0.69	5.14 ±1.01	-9.315	0.000
t(P)	33.119(0.000)	20.153(0.000)		

Before the intervention, there was no statistically significant difference in PANSS scores between the two groups ($P > 0.05$); After the intervention, the positive symptoms, negative symptoms, excited hostility, anxiety and depression of the two groups were lower than those before the intervention, and the negative symptoms, excited hostility, anxiety and depression of the study group were lower than those of the control group, and the differences were statistically significant ($P < 0.05$). See Table 1:

3.2. GSES, IPROS, and SF-36 scores

Before the intervention, there were no differences in GSES, IPROS and SF-36 scores between the two groups ($P > 0.05$); After the intervention, the GSES, IPROS and SF-36 scores of the two groups were higher than those before the intervention, and the scores of the study group were higher than those of the control group. See Table 2:

Table 2: Comparison of GSES, IPROS, and SF-36 scores between the two groups ($\bar{x} \pm s$, points)

Group	GSES		IPROS		SF-36	
	Before the intervention	After the intervention	Before the intervention	After the intervention	Before the intervention	After the intervention
Research Group	15.81±3.02	30.29±5.33	30.35±6.27	50.39±5.21	60.11±5.53	71.39±6.18
Control group	16.01±2.78	23.12±4.10	29.31±5.01	42.51±6.29	60.32±5.37	68.32±5.90
t	0.458	11.356	0.357	9.563	0.213	10.902
p	0.819	0.000	0.759	0.000	0.931	0.000

4. Discussion

Schizophrenia is a common mental disease with a high recurrence rate and disability rate, and the probability of complete recovery is less than 30%. It imposes a great burden on society and families, and has become a more prominent public health problem in China at present. Traditional drug therapy has occupied a dominant position in the treatment of schizophrenia in the past, but only the recovery effect of positive symptoms of schizophrenia is good, and the recovery effect of other symptoms is not ideal^[8]. Dance therapy, through the whole body movement, adopts the way of dance, and observes the movement behavior of patients in the process of dance to vent the deep psychological problems of patients, which can affect the advanced cognitive function of individuals. The treatment of dance therapist focuses more on what patients can participate in, rather than what patients cannot participate in^[9]. As a dance therapist, it is often necessary to understand the relationship between oneself and patients as an equal status, interact with them as a friend, and find and solve problems, which is more beneficial to the recovery of patients with schizophrenia.

The results of this study showed that after the intervention, the psychological state score of the study group was lower than that of the control group, and the scores of self-efficacy, mental rehabilitation effect and social function were higher than those of the control group, and the differences were statistically significant ($P < 0.05$). This means that dance therapy has a significant application effect in the rehabilitation process of patients with schizophrenia, especially the improvement of self-efficacy, mental rehabilitation effect, social function and negative symptoms. This result can be analyzed from the following three aspects: first, the etiology of schizophrenia patients is analyzed. The cortex-basal ganglia -thalamus network and the insula network are two of the networks that lead to the clinical symptoms and cognitive dysfunction of schizophrenia. However, dance therapy combines artistic concepts, scientific concepts and body movement well through the non-verbal communication method of dance, so the influence on the

cortex-basal ganglia -thalamus network and insula network is more obvious. If dance therapy is carried out for a long time, it will spread from these two networks to a wider range of regions in the brain, and the sensorimotor cortex will gradually adapt to the dance movements and improve the coordination ability, which is conducive to the formation of a new response mode of the sensorimotor network. The connection between thalamus and cortex will be smoother, so that the prefrontal regulation of patients with schizophrenia will be more efficient and play a role in intervention treatment. The second is to analyze the application of dance therapy. Dance therapy requires the body to process and integrate all kinds of sensorimotor information efficiently, connect internal perception with the external world, so as to promote the generation and revision of cognition, and then affect and improve the internal representation of primary sensorimotor of patients with schizophrenia, so that their processing ability to integrate sensory information is stronger, and individuals show higher empathy ability. It is helpful for the rehabilitation of schizophrenic patients. Third, dance therapy also expands the communication channels between therapists and patients with schizophrenia. Through the interaction between music and body during the dance process, emotional and social interactions are achieved. Music stimulates the reward center of the brain, while dance stimulates sensory and motor pathways. It can effectively and efficiently establish the relationship between the therapist and the patient with schizophrenia, and the establishment of this relationship is also the most critical step in psychotherapy, which can lay the foundation for subsequent treatment.

In summary, dance therapy has a good effect on the recovery of negative symptoms in patients with schizophrenia, and is conducive to the improvement of self-efficacy, social function and mental rehabilitation effect of patients with schizophrenia, which is worthy of clinical application and promotion.

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