

EFFECTS OF MINDFULNESS-BASED STRESS REDUCTION TRAINING ON HOPE, PSYCHOLOGICAL WELL-BEING AND FUNCTIONAL RECOVERY OF SCHIZOPHRENIA PATIENTS

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ABSTRACT

Introduction: To explore the effect of mindfulness-based stress reduction training on hope, psychological well-being and functional recovery of schizophrenia patients.

Materials and methods: A total of 106 schizophrenia patients admitted to our hospital from June 2019 to May 2021 were selected as the research objects, and they were divided into two groups according to the random number table (the observation group and the control group, with 53 cases each). The patients in the two groups received routine nursing intervention, and the patients in the observation group received additional mindfulness-based stress reduction training for 8 weeks. The Herth Hope Index (HHI), Psychological Well-being (PWB) and Functional Remission of General Schizophrenia Scale (FROGS) were used to evaluate the effect before and after the intervention.

Results: Before the intervention, there was no significant difference in the level of hope, psychological well-being and functional indicators between the two groups ($P>0.05$). After 8 weeks of intervention, the HHI scores in the two groups were significantly higher than before. However, the changes in the HHI scores, PWB scores and FROGS scores in the observation group were significantly greater than those in the control group, and the differences were statistically significant ($P<0.05$).

Conclusion: Mindfulness-based stress reduction training can significantly improve hope level and psychological well-being of schizophrenia patients, and can also improve the level of function, which is worthy of clinical application.

Keywords: Mindfulness-based stress reduction training, schizophrenia, hope, psychological well-being, function.

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Introduction

Schizophrenia is a chronic mental health status characterized by disturbances in emotions, thoughts, perceptions, and behaviors. The pathogenesis is unclear, and currently common clinical drugs only can relieve some of the symptoms⁽¹⁾. Studies have revealed that schizophrenia patients generally have low hope level, low psychological well-being and significant decline in function. Hope plays an important role in the rehabilitation process of schizophrenia patients, which can improve patients'

confidence in overcoming the disease and personal insight into their own status. Hope is positively correlated with functional recovery, self-efficacy, motivation, and quality of life^(2,3). While psychological well-being refers to an emotion that includes various relationships that support human well-being. Studies have shown that schizophrenia patients complicated with negative symptoms of depression have much lower psychological well-being⁽⁴⁾. Schizophrenia is not only manifested in significant changes in basic personality, but also in patients' decreased functions, including the significant decrease in

daily living skills, social interaction skills, cognitive function, and ability to cope with stress. Studies have demonstrated that schizophrenia patients who receive only drug treatment have varying degrees of reduced functional levels^(5, 6). Mindfulness-based stress-reduction training focuses on the present moment, not only making patients fully aware of their own feelings and thoughts, but also strengthen their ability to cope with stress and improve their mood by teaching them to meditate and change their previous thinking habits^(7, 8).

Therefore, this study aimed to investigate the effect of mindfulness-based stress reduction training on hope, psychological well-being and functional recovery of schizophrenia patients, which may provide a reference for clinical nursing work.

Materials and methods

Study objects

A total of 106 patients admitted to our hospital for schizophrenia from June 2019 to May 2021 were selected as the research objects, and randomly divided into an observation group and a control group according to the random number table, with 53 cases in each group.

Inclusion criteria:

- All met the diagnostic criteria for stable schizophrenia;
- Age ≥ 18 years;
- Obtained the informed consent from patients and their family members;
- Had no obvious cognitive impairment and could communicate normally.

Exclusion criteria:

- Complicated with dementia or other organic mental disorders;
- Diseases that seriously threatened the patients' life safety in the short term, such as advanced cancers;
- Pregnant or lactating women.

This study has been approved by the ethics committee of our hospital.

Treatment methods

The patients in the control group received nursing interventions commonly used in clinical practice, including assessment of the condition upon admission, guidance on taking antidepressants, one-to-one professional psychological consultant health guidance, etc., while the patients in the observation group received additional mindfulness-based stress

reduction training. The nursing team was composed of a nurse team leader and two responsible nurses who had rich nursing experience, strong communication skills and a sense of responsibility in schizophrenia patients in the psychiatric ward as well as a professional psychological consultant, and all team members were trained and assessed to be qualified.

The implementation of mindfulness-based stress reduction training was as follows:

- **Intervention method:** all patients were trained in small groups, 2 times a week, approximately 60 minutes each time, and chose a quiet and comfortable environment for training, such as a psychotherapy room; after each training session, patients were instructed to complete the corresponding homework, such as drinking tea by feeling the warmth and aroma of the tea in the glass, focusing on the scenery and people outside the window, and concentrating on perceiving every step of the foot or mentally focusing on body sensations and breathing. At the end of the training program, patients were provided with a mindfulness-based stress reduction booklet detailing breathing exercises and key points of perception methods.

- **Mindfulness meditation:** first, they ensured that the surrounding environment was quiet and clean, and instructed the patients to meditate on breathing and body, including paying attention to diet and conducting regular breathing training, etc.; patients learned the basic information of schizophrenia and its treatment, and perceived what happened to the body when stress occurred; patients consciously did an activity every day, such as looking up at the sky, paying attention to the kettle to boil water, taking a walk, watching a movie, planting flowers and plants, writing letters, etc.

- **Psychological education:** patients were mainly educated on how to deal with stress and anger, taught communication skills and relaxing their minds, and instructed to carefully perceive changes in body feelings, emotions and inner thoughts, learn to accept pressure and negative emotions and improve self-emotional management ability.

Observation indicators

- **Hope level:** the Herth Hope Index (HHI) was used to evaluate the hope level of patients in the two groups before and after the intervention. The HHI consisted of 30 items using a four-point scoring method, and the score was proportional to the patients' hope level.

• Psychological well-being: the Psychological Well-being (PWB) was used to evaluate the psychological well-being of patients in the two groups before and after the intervention. PWB consisted of 8 items using a four-point scoring method, and the score was proportional to the patients' psychological well-being.

• Functional recovery: the Functional Remission of General Schizophrenia (FROGS) was used to evaluate the functional status of patients in the two groups before and after the intervention. FROGS consisted of 19 items using a five-point scoring method, with a full score of 95 points, and the score was proportional to social function.

Statistical analysis

Statistical analysis was performed using SPSS 22.0 statistical software. Measurement data were expressed as mean±standard deviation, and the comparison between groups was analyzed by t-test. Enumeration data were expressed as percentages and were compared using χ^2 test. P<0.05 was considered statistically significant.

Results

Comparison of general data between the two groups

There were no significant differences in general clinical data such as gender, age, and type of acute myocardial infarction between the two groups (P>0.05; Table 1).

Groups	N	Male/Female (N)	Age (year)	BMI (kg/m ²)	Family history of mental illness (N)	Smoking (N)	Drinking (N)
Observation group	53	28/25	43.55±10.03	23.03±3.31	10	16	8
Control group	53	26/27	46.26±11.14	24.01±2.58	8	12	11
χ^2 or t		0.151	0.474	0.943	0.268	0.777	0.577
P		0.698	0.636	0.348	0.605	0.378	0.447

Table 1: General data of patients in the two groups.

Comparison of hope level between the two groups before and after the intervention

Before the intervention, there was no significant difference in the hope level between the two groups (P>0.05); after 8 weeks of intervention, the HHI scores in the two groups significantly increased compared with before; however, the changes in the HHI scores in the observation group were significantly greater than those in the control group, and the difference was statistically significant (P<0.05; Table 2).

Groups	N	Before intervention	After intervention	t	P
Observation group	53	38.26±8.11	45.85±15.30	5.636	0.011
Control group	53	39.14±8.34	56.74±16.88	16.852	<0.001
t		0.136	10.776		
P		0.892	<0.001		

Table 2: HHI scores of patients in the two groups before and after intervention.

Comparison of psychological well-being between the two groups before and after the intervention

Before the intervention, there was no significant difference in the psychological well-being between the two groups (P>0.05); after 8 weeks of intervention, the PWB scores in the two groups significantly increased compared with before; however, the changes in the PWB scores in the observation group were significantly greater than those in the control group, and the difference was statistically significant (P<0.05; Table 3).

Groups	N	Before intervention	After intervention	t	P
Observation group	53	28.27±6.61	33.10±10.93	4.859	0.021
Control group	53	28.89±6.47	41.10±10.93	10.235	<0.001
t		0.579	8.852		
P		0.512	<0.001		

Table 3: PWB scores of patients in the two groups before and after intervention.

Comparison of functional status between the two groups before and after the intervention

Before the intervention, there was no significant difference in the functional status between the two groups (P>0.05); after 8 weeks of intervention, the FROGS scores in the two groups significantly increased compared with before; however, the changes in the FROGS scores in the observation group were significantly greater than those in the control group, and the difference was statistically significant (P<0.05; Table 4).

Groups	N	Before intervention	After intervention	t	P
Observation group	53	51.26±8.33	60.12±10.93	6.874	0.002
Control group	53	53.47±9.41	70.22±11.14	18.881	<0.001
t		1.028	10.389		
P		0.339	<0.001		

Table 4: FROGS scores of patients in the two groups before and after intervention.

Discussion

Schizophrenia may be related to various factors such as abnormal development of the nervous system, environmental factors, heredity, etc. The course of the disease is prolonged and repeated, which brings serious negative effects to patients and their families⁽⁹⁾. This study aimed to investigate the effect of mindfulness-based stress reduction training on hope, psychological well-being and functional recovery of schizophrenia patients. The results demonstrated that mindfulness-based stress reduction training significantly improved the hope level and psychological well-being of schizophrenia patients, and also improved the functional level. As a mindfulness-based mental intervention therapy, the biggest difference between mindfulness-based stress reduction training and traditional mental illness intervention therapy is that the mindfulness-based practice of mindfulness-based stress reduction training focuses on the present moment, enabling patients to be aware of their own feelings and thoughts; mindfulness-based stress reduction training teaches patients to meditate and break out of old thinking habits, helping patients gain the ability to cope with stress, challenges and emotions. Meditation practice can not only reduce stress, but also improve patients' communication skills and improve interpersonal relationships in social life, thereby increasing psychological well-being⁽¹⁰⁻¹³⁾.

In fact, the clinical symptoms of schizophrenia patients include positive symptoms, negative symptoms and cognitive impairment, and despair is one of the negative symptoms with the highest incidence in schizophrenia patients⁽¹⁴⁾. Previous meta-analysis study has revealed a clear correlation between functional level and hope level in schizophrenia patients⁽¹⁵⁾. By training patients to meditate and practice habit-breaking, and homework to improve mindfulness and reduce stress, active participation in mindfulness-based stress reduction training can significantly reduce patients' stress, and significantly increase self-confidence and self-acceptance. The hope level also increases markedly as a result. This study also demonstrated that mindfulness-based stress reduction training significantly improved patients' life skills and social interaction skills, because mindfulness-based stress reduction training can effectively relieve the negative thoughts and emotions of schizophrenia patients, and enable patients to focus on increasing their abilities in a state of self-acceptance, improving their social

skills, and also increasing their medical compliance and participation in nursing, thereby improving patient outcomes. In fact, mindfulness-based stress reduction training has been widely implemented and tested in sub-healthy populations, the elderly, cancer patients, menopausal women, and patients with chronic pain and mental disorders, helping treat various symptoms of acute and chronic diseases, and also achieved great success in increasing the immune level of patients, improving sleep, etc.⁽¹⁶⁻¹⁸⁾.

However, the current therapeutic mechanism of mindfulness-based stress reduction training is unclear. Some studies have pointed out that it may play a therapeutic role by affecting the brain wave activity and changing the morphological structure of the hippocampus and cerebellum that affect the patient's mood and thinking^(19, 20). There are also some shortcomings in this study, the sample size is relatively small, and this study did not carry out long-term follow-up of patients, and multi-center and large-sample studies are needed for further verification to judge the feasibility and efficacy of mindfulness-based stress reduction training in the treatment of patients with mental disorders.

In conclusion, mindfulness-based stress reduction training can significantly improve the hope level and psychological well-being of schizophrenia patients, and can also improve the function level, which is worthy of clinical application.

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