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Study on the Impact of Health Belief Model on Self-efficacy in Patients with Chronic Schizophrenia

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Abstract: *Purpose:* To explore the clinical effect of systematic nursing intervention guided by the health belief model in inpatients with chronic schizophrenia, focusing on analyzing the improvement value of this intervention program on patients' self-efficacy, social function and quality of life. *Methods:* The case subjects were all patients with chronic schizophrenia who were treated in Nanjing You'an Hospital. The data entry period was from January 2024 to December 2025. A total of 80 cases were screened. The grouping method was a random number table method, with 40 cases evenly matched in each case. The control group received routine care, while the experimental group received special nursing intervention based on the health belief model. After 3 months of continuous intervention, the differences in self-efficacy level, social functional status a nd quality of life between the two groups of patients were evaluated. *Results:* Before the intervention, there was no statistical difference in the scores of various indicators between the two groups ($p > 0.05$); after adopting different nursing models, the self-efficacy scores and quality of life scores of the patients in the experimental group were higher than those of the control group, and the social function scores were better than those of the control group, and the difference was statistically significant ($p < 0.05$). *Conclusion:* Health belief model nursing intervention for patients with chronic schizophrenia can effectively correct patients' negative health cognition, improve disease management self-efficacy, reduce social functional impairment, and comprehensively improve patients' physical and mental quality of life, which is worthy of clinical promotion and application.

Keywords: Health belief model; Chronic schizophrenia; Self-efficacy; Quality of life; Social functioning

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1. Introduction

Schizophrenia is a severe mental disorder with a high clinical incidence. Most patients have a protracted course and recurrent attacks, and require long-term hospitalization and maintenance treatment after progressing to a chronic course. Patients with chronic schizophrenia commonly suffer from abnormal cognitive thinking, emotional and behavioral disorders, social withdrawal, and decreased self-care ability,

which not only seriously damages the physical and mental health of patients, but also places a heavy burden on family care and social public health systems. Long-term medication maintenance is the core means to control mental symptoms and prevent recurrence of the disease. However, due to the long course of the disease and weak disease awareness, most chronic patients generally slack off in taking medication, are resistant to treatment, and passively avoid the world. Their self-disease management ability and self-confidence in recovery are seriously insufficient, and their self-efficacy levels remain low for a long time. Self-efficacy is the patient's intrinsic motivation to perform rehabilitation behaviors, adhere to standardized treatment, and participate in social activities. Insufficient self-efficacy will directly lead to poor rehabilitation compliance, continued degradation of social functions, and declining quality of life year by year. At present, routine psychiatric care is mostly based on symptom observation, basic life care, and general health promotion. The intervention form is single and lacks theoretical support. It cannot improve patients' health beliefs and recovery self-confidence from cognitive roots. The health belief model is a systematic intervention theory centered on individual health cognition, risk perception, and behavioral motivation. It can reshape patients' recovery attitudes from the psychological and cognitive level by correcting misperceptions, perceiving disease risks, establishing recovery beliefs, and stimulating proactive behaviors [1]. Based on this, this study took patients with chronic schizophrenia as subjects to explore the impact of health belief model nursing intervention on patients' self-efficacy, social function and quality of life, and provide practical basis for the optimization of psychiatric rehabilitation nursing.

2. Materials and methods

2.1. General information

The research investigation period is from January 2024 to December 2025. 80 patients with chronic schizophrenia hospitalized in Nanjing You'an Hospital were selected as the research subjects and divided into two groups according to the random number table method. The above-mentioned data on gender composition, age, and disease course of the two groups of patients were compared through balanced calibration. The differences were not statistically significant (all $p > 0.05$) and were comparable. A comparison of the general information of the two groups of patients is shown in **Table 1**.

Table 1. Comparison of general baseline information of the two groups of patients

Project	Control group (n = 40)	Experimental group (n = 40)	Statistical value	*p* value
Gender (male/female, n)	18/22	21/19	$\chi^2 = 0.450$	0.502
Age (years, $\bar{x} \pm s$)	51.08 ± 7.07	51.83 ± 6.29	$t = 0.501$	0.617
Disease duration (years, $\bar{x} \pm s$)	25.50 ± 4.17	24.00 ± 4.33	$t = 1.578$	0.118
Disease duration (years)	13~38	11~37	—	

Inclusion criteria: ① Meet the diagnostic criteria in the "Chinese Classification and Diagnostic Criteria for Mental Disorders" (ICD-10); ② Aged 18 to 60 years old; ③ Those with disease duration ≥ 2 years and a total PANSS scale score ≤ 60 points; ④ Obtain written informed consent from the patient (or legal guardian). Exclusion criteria: ① Other mental illnesses; ② Those who participate in other similar studies or receive education from similar projects; ③ Those with substantial organ failure; ④ Pregnant and lactating women; ⑤ Patients who are unable to complete or drop out midway for any reason.

2.2. Method

Both groups maintained the original standardized antipsychotic drug treatment, and the types and doses of drugs were not adjusted. The control group received routine nursing and health education, and the experimental group was superimposed on systematic nursing intervention based on the health belief model. The intervention period totaled 12 weeks, and 8 people were divided into 1 group. Intervention courses were conducted twice a week, each session lasting 60 minutes.

The control group received routine psychiatric care, and a group health education was carried out once a week for 45 minutes. The content included basic knowledge of the disease, daily living guidance, simple rehabilitation exercises, and key points of relapse prevention. It was mainly one-way explanation by the nurse, without hierarchical cognitive guidance and personalized training design.

The experimental group adopted the health belief model of care, with specific contents:

(1) Disease threat perception intervention

Communicate one-on-one with patients, combine the patient's course of disease, past relapse experience, and clinical symptoms, and use plain and gentle language to explain the dangers of repeated episodes of chronic schizophrenia, the risks of unauthorized discontinuation of medication, and the adverse consequences of passive recovery. Help patients objectively understand the hidden dangers of their own disease, correct misunderstandings, let patients clearly perceive the necessity of standardized treatment, adhere to rehabilitation, and establish basic disease risk awareness.

(2) Cognitive intervention on the benefits of health behaviors

Based on the patient's individual recovery situation, the positive changes brought about by standardized medication, active training, regular work and rest, and active social interaction are explained in a targeted manner. By listing real cases with good rehabilitation results in the same ward, patients can intuitively perceive that adhering to healthy behaviors can improve their emotional state, alleviate abnormal thinking, restore self-care abilities, and improve social skills, helping patients fully recognize the actual benefits of healthy rehabilitation behaviors and actively accept rehabilitation intervention.

(3) Guidance and intervention for rehabilitation disorders

Actively listen to the patients' inner confusion and sort out the factors that hinder the patient's recovery process, including drug resistance, worry about side effects, social anxiety, self-denial, laziness and other issues. Carry out individualized counseling for various obstacles, scientifically explain drug safety, and alleviate patients' anxiety about medication; patiently correct patients' negative self-perceptions, help patients face their own recovery potential, and eliminate patients' psychological and behavioral barriers one by one.

(4) Self-efficacy motivating intervention

Set low-difficulty and achievable staged rehabilitation goals based on the patient's ability, such as organizing housework independently, taking medication on time, actively participating in group activities, simple interpersonal communication, etc. After patients complete their goals, they will be given timely affirmation, encouragement and positive feedback, gradually accumulating a sense of accomplishment in their recovery and rebuilding their self-confidence. Continue to guide patients to control their condition independently, actively participate in rehabilitation, and gradually improve their self-efficacy in disease management.

(5) Behavioral triggering and maintenance intervention

Establish a normalized intervention mechanism, urge patients to take medication, work and rest, and

perform rehabilitation training every day, conduct one-on-one cognitive reviews once a week, and promptly correct patients' negative thoughts and slack behaviors. Through collaborative intervention by family members, positive motivation from peers, and continuous guidance from nursing staff, a stable rehabilitation intervention atmosphere is formed to help patients maintain healthy rehabilitation behaviors in the long term and solidify correct health beliefs.

2.3. Observation indicators

(1) Refer to the General Self-Efficacy Scale (GSES) for evaluation

The total score of the scale is 10 to 40 points. The higher the score, the stronger the patient's self-efficacy and self-confidence in coping with the disease and performing rehabilitation behaviors.

(2) Use the Social Function (Deficiency) Rating Scale for Inpatient Psychiatric Patients (SSPI) to evaluate patients' social abilities, self-care, interest activities and other social functions

This study uses forward scoring. The higher the score, the more normal the social function. Note: ＞ 38 points: normal social function; 29–38 points: mild social functional impairment; 19-28 points: moderate social functional impairment; 9–18 points: severe social functional impairment; ≤8 points: extremely severe social functional impairment.

(3) Based on the World Health Organization Quality of Life Brief Form (WHOQOL-BREF) assessment, which includes four dimensions: physiological domain, psychological domain, social relationship domain, and environmental domain, all calculated according to a percentage system. The higher the total score, the better the overall quality of life.

2.4. Statistical methods

The data was imported into SPSS 22.0 software for verification. Measurement data were expressed as ($\bar{x} \pm s$). When they conformed to the normal distribution and the variances were equal, the *t* test was used. Count data were expressed as percentages and the χ^2 test was used. The difference value is judged to be significant when $p < 0.05$.

3. Results

3.1. Comparison of GSES scores between the two groups

After nursing, the GSES score of the patients in the experimental group was at a higher value ($p < 0.05$), **Table 2**.

Table 2. Comparison of GSES scores between the two groups ($\bar{x} \pm s$, points)

Group	n	Before care	After care
Experimental group	40	21.62 ± 2.53	36.38 ± 3.84
Control group	40	21.19 ± 2.14	26.33 ± 2.95
t	-	0.821	13.126
p	-	0.414	< 0.001

3.2. Comparison of SSPI scores between the two groups

After care, the SSPI scores of the two groups of patients were significantly improved, and the three social

function scores of the experimental group were higher than those of the control group, and the difference was statistically significant ($p < 0.05$), **Table 3**.

Table 3. Comparison of SSPI scores between the two groups ($\bar{x} \pm s$, points)

Group	n	Social skills		Take care of yourself		Hobbies and activities	
		Before care	After care	Before care	After care	Before care	After care
Experimental group	40	5.33 ± 1.27	11.84 ± 2.32	4.55 ± 0.97	11.33 ± 2.88	4.44 ± 0.85	12.32 ± 2.64
Control group	40	5.46 ± 1.64	8.11 ± 1.95	4.52 ± 0.96	8.67 ± 1.54	4.45 ± 0.87	9.11 ± 1.62
t	-	0.396	7.784	0.139	5.151	0.052	6.554
p	-	0.693	< 0.001	0.889	< 0.001	0.959	< 0.001

3.3. Comparison of WHOQOL-BREF scores between the two groups

Before the intervention, there was no statistically significant difference in the scores of each dimension of WHOQOL-BREF between the two groups ($p > 0.05$) and they were comparable. After the intervention, the four quality of life scores set during the nursing period in the experimental group were all higher than those in the control group, the difference was $p < 0.05$, **Table 4.**

Table 4. Comparison of WHOQOL-BREF scores between two groups ($\bar{x} \pm s$, points)

Group	n	Physiology	Psychological	Social relations	Environment
Experimental group	40	90.55 ± 5.23	90.78 ± 5.44	90.67 ± 5.18	90.44 ± 5.44
Control group	40	80.69 ± 4.84	80.82 ± 4.72	80.33 ± 4.99	80.91 ± 4.33
t	-	8.751	8.746	9.092	8.669
p	-	< 0.001	< 0.001	< 0.001	< 0.001

4. Discussions

Chronic schizophrenia is a severe mental illness that has a long course and is prone to recurring attacks. Patients have long been troubled by symptoms such as hallucinations, delusions, disordered thinking, and apathy. Coupled with the impact of long-term hospitalization in a closed environment, they are prone to psychological problems such as self-perception deviations, lack of belief in recovery, and decline in self-confidence. Most patients view their condition negatively and believe that the disease cannot be recovered, and then they resist treatment, slack off in recovery, avoid social interactions and other behaviors. Their self-efficacy level continues to be low, which ultimately leads to the progressive deterioration of social functions and a significant decline in the quality of daily life.

Clinical drug treatment can effectively control patients' positive and negative mental symptoms and stabilize the condition, but it cannot directly improve patients' cognitive concepts, psychological state and subjective initiative for rehabilitation. Routine nursing focuses on symptom management and life care, and the health education model is solid and general in content. It does not carry out targeted intervention based on the patient's individual cognitive misunderstandings and psychological shortcomings. It cannot correct the patient's negative health concepts from the root cause, and it is difficult to effectively improve the patient's self-efficacy and rehabilitation initiative. The long-term rehabilitation effect is relatively limited. The health belief model is a scientific intervention system based on cognitive psychology. Its core is to guide

changes in health behaviors by changing individual health cognitions, fully adapting to the core needs of cognitive rehabilitation for patients with chronic mental illness [2]. This study relies on this model to carry out systematic nursing intervention. Through disease risk perception education, the patient's misunderstanding of denying the disease and underestimating treatment is corrected, and the patient is actively aware of the importance of standardized rehabilitation. Through the education on the benefits of healthy behavior, the patient can intuitively perceive the physical and mental improvement brought by rehabilitation and increase the willingness to actively intervene [3]. At the same time, targeted guidance on rehabilitation disorders can effectively alleviate patients' negative psychology such as medication anxiety, social phobia, and self-denial, and break down obstacles to recovery; stepped small goal incentive intervention can allow patients to gain a sense of accomplishment in continued recovery, gradually rebuild their self-confidence, and improve self-efficacy in disease management; long-term behavioral maintenance intervention can solidify patients' healthy behaviors, avoid slacking off in rehabilitation, and achieve all-round improvements in cognition, psychology, and behavior [4].

Comparative data showed that the GSES self-efficacy score of the experimental group increased significantly after the intervention, indicating that the health belief model intervention can effectively activate patients' intrinsic motivation for recovery, rebuild their self-confidence in recovery, and fundamentally improve patients' low self-efficacy status. The SSPI social function score of the experimental group increased significantly, confirming that improvements in cognition and beliefs can effectively drive the recovery of social functions and alleviate long-term social withdrawal and functional impairment. In terms of quality of life, all WHOQOL-BREF scores in the experimental group were higher than those in the control group, suggesting that this intervention model can simultaneously improve patients' physical comfort, psychological and emotional state, interpersonal relationships and environmental adaptability, comprehensively improve the physical and mental quality of life of chronic patients, and improve the negative physical and mental status of long-term hospitalization. Analyzing its internal mechanism, the health belief model breaks through the shortcomings of conventional nursing that emphasizes management and neglects cognition. It is no longer limited to external nursing constraints, but changes patients' internal health beliefs through cognitive intervention, allowing patients to transform from passively accepting treatment and care to actively participating in rehabilitation management, forming a virtuous recovery cycle. This intervention model is in line with the long-term rehabilitation characteristics of patients with chronic schizophrenia. The intervention is gentle, non-invasive, can be carried out in a long-term manner, and is suitable for the rehabilitation nursing scenario of closed psychiatric wards [5].

5. Conclusion

Based on the above, health belief model nursing can effectively improve the self-efficacy level of patients with chronic schizophrenia, reduce social functional deficits, and optimize the overall quality of life of patients. It is a scientific, efficient, and feasible psychiatric rehabilitation nursing program that is worthy of popularization and application.

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Disclosure statement

The authors declare no conflict of interest.

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