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Effect of Rehabilitation Nursing Intervention on the Quality of Life of Neurological Patients with Cerebral Hemorrhage Sequelae

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Abstract: *Objective*: To analyze the effect of rehabilitation nursing intervention on the quality of life of neurological patients with sequelae of cerebral hemorrhage. *Methods*: 70 patients with cerebral hemorrhage and sequelae who were admitted to the hospital from February 2022 to February 2024 were randomly divided into the observation group and the control group, and were subjected to conventional nursing measures and rehabilitation nursing intervention modes respectively to analyze the effects of the interventions in the two groups. *Results*: After the intervention, the observation group had lower nerve damage, stronger independent self-care ability, and better recovery of limb function, $P < 0.05$. After the intervention, the observation group had higher quality of life scores, and lower probability of complications, $P < 0.05$. *Conclusion*: the neurology department involves relatively more patients with cardiovascular and cerebrovascular diseases, and the presence of cerebral hemorrhage in the patients may lead to several sequelae, which will affect the daily lives of the patients. The implementation of rehabilitation nursing interventions can improve the recovery rate of patients' neurological function and limb function, improve patients' self-care ability, and maintain patients' quality of life.

Keywords: Rehabilitation nursing interventions; Neurology; Cerebral hemorrhage sequelae; Quality of life; Effects

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1. Introduction

Cerebral hemorrhage occurs when a blood vessel in a patient's brain is not traumatized but ruptures spontaneously, causing blood to collect in the brain parenchyma. The main group of this disease is stroke patients, accounting for 20%–30% of the cases. Once a patient suffers from cerebral hemorrhage, their limb function will have certain problems, such as muscle weakness, which may lead to dizziness and headache, and may even lead to consciousness disorder, which will increase the disability rate of the patient and jeopardize their life safety. Clinical investigation results show that if patients suffer from cerebral hemorrhage,

the probability of sequelae is relatively high, such as hemiplegia, which makes patients suffer from speech dysfunction and limb dysfunction, improving the degree of neurological damage and affecting the daily life of patients [1]. Therefore, attention should be paid to the care of patients with sequelae of cerebral hemorrhage, and a rehabilitation nursing intervention system should be established based on patients' treatment to improve patients' physical quality and enhance their self-care ability so that their daily lives will gradually become normal. Among them, the utilization of the rehabilitation nursing model combined with the rehabilitation needs of patients to adjust the nursing program, enhance the physical vitality of patients, stabilize the psychological state of patients, and allow patients to actively participate in rehabilitation training to accelerate the rate of recovery of patients. This study analyzes the application effect of the rehabilitation nursing intervention model to provide support for the optimization of nursing programs for patients with sequelae of cerebral hemorrhage.

2. Information and methods

2.1. General information

At the time of this study, the selected research subjects were all patients with cerebral hemorrhage and they were all accompanied by certain sequelae. The treatment time was between February 2022 and February 2024, totaling 70 cases, which were randomly divided into the observation group and the control group. In the observation group, there were 20 male and 15 female cases with an average age of 56.48 ± 4.69 years. In the control group, there were 21 men and 14 women with an average age of 56.53 ± 4.72 years. The analysis of the data of the two groups shows no significant difference, $P > 0.05$.

Inclusion criteria: Patients who were diagnosed with cerebral hemorrhage by CT examination were selected. Patients who had no problems with missing personal data and voluntarily cooperated with the study were selected.

Exclusion criteria: Exclude patients with malignant tumor diseases or those who withdrew from the treatment midway. Exclude patients who have been in a state of coma for a long time.

2.2. Methodology

2.2.1. Control group control methods

The routine nursing intervention model is applied. The nursing staff should consult the basic information of the patient to ensure the comprehensiveness of the patient's personal information, such as the history of disease, allergy, and so on, to consider the requirements of neurology nursing and implement the basic nursing measures. Additionally, they should supervise the patients' medication status, ensure the standardization of patients' medication, inform the patients of the precautions related to hospitalization, and carry out routine educational work.

2.2.2. Control methods for the observation group

The rehabilitation nursing intervention model is applied. One is to increase health education. When carrying out health education, nursing staff should update the education path, no longer confined to the traditional education manual, and instead use new media technology, such as video and photos, to reduce the difficulty of patients' learning, incorporate the etiology of the sequelae of cerebral hemorrhage mechanism and other related knowledge, explaining the relevant points of rehabilitation nursing care to patients, to enhance the awareness of patients' self-care, and to improve the degree of cooperation of the patients [2]. At the same time, the

nursing staff should adjust their language expression with the basic information of the patient's cultural level, improve the patient's information reception level, improve the patient's cognitive structure, and create a good environment for the implementation of rehabilitation nursing measures.

Secondly, psychological care is carried out. Generally speaking, if patients have sequelae of cerebral hemorrhage, their physical activity ability is relatively weak, language expression ability decreases, and the ability of patients to live independently decreases, increasing the psychological pressure of the patients, which in turn produces negative emotions, and the enthusiasm of patients to participate in rehabilitation training decreases, which is not conducive to the improvement of the level of patient's rehabilitation [3]. Nursing staff should analyze the basic information of the patient, such as family economic status, combined with the personality characteristics of the patient. Through verbal communication, explore the causes of the patient's bad mood, establish targeted psychological guidance measures, cooperate with the patient's family members, give psychological support to the patient, improve the encouragement of the patient, cite successful cases of rehabilitation, and improve the patient's confidence in rehabilitation. In this process, nursing staff should communicate with the patient's family, so that the family appropriately increases the time to accompany the patient, so that the patient's mood is more stable, to achieve effective control of the stress response.

Thirdly, rehabilitation and exercise care. If the patient is in the acute morbidity period, nursing staff should combine the requirements of treatment, assist the patient in adjusting their position, such as a healthy side-lying position or flat lying position, and regularly assist the patient in turning over, to reduce the incidence of pressure ulcers [4]. At the same time, nursing staff should observe the recovery status of patients, and after their condition is stabilized, guide patients to carry out passive exercises, such as massage, assist patients in doing joint extension and flexion exercises, and so on, to improve the recovery rate of patients' limb function. When exercising patients in the recovery period, patients should be guided to carry out bed exercises, such as changing their position or sitting up training, and guide patients to control the healthy side of the muscle to complete their position change, to enhance the level of self-care of the patient's life.

Fourthly, cognitive function care is carried out. When nursing patients with cognitive impairment, the nursing staff should select appropriate cognitive training programs according to the actual condition of the patients, based on the patient's interest preferences, play the patient's favorite music, or guide the patient to read text fragments, to improve the level of cognitive ability recovery of the patients. At the same time, nursing staff can also allow patients to touch their surrounding objects and say the names of different objects, training patients in visual and tactile feedback ability [5]. In addition, nursing staff should observe the patient's demeanor and behavior, assess the degree of cognitive impairment, and formulate a targeted nursing program to improve the recovery of cognitive function.

2.3. Observation of indicators

The NIHSS scale was utilized when measuring the patients' neurological impairment.

The Barthel Index was utilized when measuring the patient's ability to care for themselves independently. To measure the patient's limb function, the FMA scale was applied. The SF-36 scale was applied when measuring patients' quality of life scores.

Patients were statistically analyzed for the chance of complications.

2.4. Statistical treatment

In the data processing session, SPSS 23.0 was applied, and the $x2$ test was performed for count data. Measurement data line *t*-test. If $P < 0.05$, the difference between the data is significant.

3. Results

3.1. Neurological function, physical function, and independent living ability

As shown in **Table 1**, after the intervention, the observation group had lower nerve damage, better independent self-care ability, and better limb function recovery, $P < 0.05$.

Table 1. Neurological function, limb function, and independent living ability before and after intervention in both groups (Mean ± SD)

Groups	Samples	Score		*t*	*P*
		Pre-intervention	Post-intervention		
NIHSS score					
Observation group	35	19.01 ± 2.13	7.11 ± 1.34	11.325	0.001
Control group	35	18.96 ± 2.16	12.58 ± 1.43	10.524	0.001
t	-	0.282	9.634	-	-
P	-	0.734	0.001	-	-
BI score					
Observation group	35	45.39 ± 4.01	81.36 ± 3.48	14.867	0.001
Control group	35	45.43 ± 3.94	71.53 ± 2.89	11.967	0.001
t	-	0.109	10.425	-	-
P	-	0.911	0.001	-	-
FMA scores					
Observation group	35	35.68 ± 3.21	71.36 ± 3.18	15.347	0.001
Control group	35	35.76 ± 3.16	52.23 ± 2.74	11.684	0.001
t	-	0.368	10.564	-	-
P	-	0.698	0.001	-	-

3.2. Quality of life

As shown in **Table 2**, after the intervention, the quality of life scores were higher in the observation group, $P < 0.05$.

Table 2. Quality of life scores before and after intervention in both groups (Mean ± SD)

Groups	Samples	Physiological function		Pain in the body		Social function		Emotional function	
		Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Observation group	35	55.63 ± 5.42	82.42 ± 2.56*	59.23 ± 5.26	81.71 ± 3.08*	60.29 ± 5.35	83.68 ± 4.26*	61.38 ± 6.21	81.38 ± 3.47*
Control group	35	55.72 ± 5.34	72.16 ± 3.67*	59.27 ± 5.21	68.06 ± 3.24*	60.32 ± 5.32	72.24 ± 3.21*	61.41 ± 6.19	70.28 ± 2.36*
t	-	0.642	10.623	0.952	13.024	1.041	11.267	1.157	11.157
P	-	0.518	0.001	0.336	0.001	0.234	0.001	0.263	0.001

3.3. Incidence of complications

As shown in **Table 3**, the complication rate was lower in the observation group, $P < 0.05$.

Table 3. Complication rates in the two groups [*n* (%)]

Groups	Samples	Pneumonia	Stress ulcer	Urinary tract infection	Pressure ulcer	Total
Observation group	35	0 (0.00)	1 (2.86)	0 (0.00)	0 (0.00)	1 (2.86)
Control group	35	1 (2.86)	2 (5.71)	1 (2.86)	2 (5.71)	6 (17.14)
x^2	-	-	-	-	-	9.634
P	-	-	-	-	-	0.001

4. Discussion

Among cerebrovascular diseases, the incidence of cerebral hemorrhage is relatively high, causing structural ischemic damage to the brain of patients, increasing the degree of cerebral nerve damage of patients, which leads to different types of sequelae, such as physical dysfunction and cognitive dysfunction, prolonging the recovery time of the patient's condition, lowering the prognosis level of the patient, and increasing the disability rate of the patient, which puts forward a higher demand for the patient's nursing interventions. If conventional nursing interventions are used, the life and safety of patients can be maintained and the stability of patients' vital signs can be guaranteed [6]. However, it does not pay attention to the recovery effect of patients, and does not formulate targeted and relatively comprehensive nursing measures, which is not conducive to the enhancement of the level of rehabilitation of patients, and restricts the enhancement of the ability of patients to take care of their own lives. The utilization of the rehabilitation nursing intervention model will pay attention to the recovery status of patients, analyze the physiological and psychological conditions of patients, assess the cognitive function of patients, adjust and improve the rehabilitation training program, improve the recovery rate of patients, and enhance the ability of patients to take care of their own lives.

Through this study, it was found that after the intervention, the observation group's neurological functional deficits improved significantly, with better self-care ability and a higher level of limb function recovery. Generally speaking, limb dysfunction is one of the main sequelae of patients with cerebral hemorrhage, which makes the whole body motor function of the patients subject to certain limitations, and may even appear as

symptoms such as paralysis, affecting the daily life of the patients. The implementation of rehabilitation nursing interventions will analyze the rehabilitation status of patients, assess the degree of limb dysfunction, implement the principle of early detection and early intervention, massage patients in stable condition, assist bedridden patients in carrying out joint movements, improve the level of hemodynamic improvement of patients, and reduce the degree of neurological impairment of patients. At the same time, the nursing staff will guide patients to carry out self-care ability exercises, such as dressing and eating, to reduce the impact of the disease on patients' daily lives [7].

The results of this study showed that after the intervention, the observation group had a higher quality of life score. This may be because the rehabilitation training program not only pays attention to the patient's limb recovery status but also pays attention to the patient's mental health level, actively carries out psychological care, combines the patient's personality characteristics and family background, supplemented by communication, analyzes the causes of the patient's psychological problems, adjusts the psychological guidance program, lets the patients correctly look at the rehabilitation training, improves the patient's enthusiasm to participate in the program, and improves the patient's rehabilitation level. This program was developed to improve the quality of life of the patients [8–9]. At the same time, the recovery of patients' limb ability can help patients enhance their self-care ability and improve their living standards.

Through this study, it was found that the complication rate of the observation group was lower. This may be because the implementation of a rehabilitation nursing intervention strategy will pay attention to the patient's complication status, assist the patient in adjusting their position regularly, and reduce the probability of pressure ulcer problems. At the same time, nursing staff guide patients to carry out limb function recovery exercises and cognitive function training to improve the cognitive structure of the patient, improve the patient's degree of cooperation, enhance the patient's hemodynamic improvement level, and realize the effective prevention and control of complications [10].

In conclusion, in the nursing process of patients with sequelae of cerebral hemorrhage, attention should be paid to the utilization of the rehabilitation nursing intervention model, focusing on the psychological state and condition development of patients, adjusting the patient care strategy, improving the limb function training program, optimizing the cognitive function nursing process, and establishing a diversified healthcare pathway, to enhance the patient's confidence in the treatment, improve the symptoms of dysfunction, and increase the patient's ability of life self-care.

Disclosure statement

The authors declare no conflict of interest.

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