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ORIGINAL ARTICLE

Analysis on Influence of Cognitive Function, Movement Function and Life Quality on Recovery of Patients with Cerebral Apoplexy by Therapy Rehabilitation System

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Abstract: Objective: To explore the effect of system rehabilitation on cognitive function, motor function and quality of life in patients with stroke. Methods: A total of 112 patients with stroke were enrolled in this study from June 2014 to June 2016. The patients were divided into control group and study group according to the time of admission. The patients in each group were treated with routine rehabilitation training. The patients in the study group were trained on the basis of routine rehabilitation training. The cognitive function, motor function and quality of life were compared between two groups. Results: The scores of cognitive function, motor function score and quality of life were significantly higher in the study group than those in the control group (P<0.05). Conclusion: Compared with the conventional nursing model, the systematic rehabilitation training model can better enhance the cognitive function and motor function of the patients, and can improve the quality of life of patients.

Key words: System rehabilitation; Stroke; Cognitive function; Motor function; Quality of life

Introduction

Stroke is a cardiovascular and cerebrovascular disease with a high incidence, recurrence rate and mortality. Although the current treatment can improve the survival rate of patients, stroke still affects the patient's cognitive function, motor function and quality of life[1]. Moreover, the system rehabilitation treatment model has a certain role in promoting the prognosis of patients, can improve the quality of life of patients, motor function and cognitive function. In this paper, 112 cases of stroke patients were studied to explore the effect of systemic rehabilitation.

1. Materials and Methods

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1.1 General information

A total of 112 patients with stroke were enrolled in this study from June 2014 to June 2016 in our hospital. 62 males and 50 females, aged 52–76 years, mean age (63.8 ± 4.0) years. The inclusion criteria are: (1) patient is diagnosed with stroke by CT diagnosis; (2) patients meet the diagnostic criteria of stroke in the Chinese Medical Association; (3) patients with limb disorders; (4) patients without severe liver and kidney disease. The patients were divided into control group and study group according to the time of admission. There were no significant differences in gender, age and condition between the two groups (P> 0.05).

1.2 Research methods

The control group of patients underwent routine rehabilitation training, including improved microcirculation, prevention of complications and simple walking recovery exercise. The patients in the study group were treated on the basis of routine nursing care. The measures were as follows: (1) Early care therapy, including good limb placemen, regular turn over, nursing staff activities of the patient's muscles, take care of the patient's diet, and respiratory tract management by using suction device to clean up debris in the patient's respiratory to ensure smooth breathing of patients. (2) Medium-term system of care, patients with better recovery, should be given walking training, balance training, and stairs-climbing training to promote the recovery of muscle function in patients. (3) Late system training, including adaptive training and coordination training. Patients can try origami to stimulate the recovery limb function of patients. (4) Psychological training. According to the actual situation of patients, medical staffs should explain to the patient in detail about the pathogenesis of the disease, precautions and recovery effects, with successful cases to encourage patients and to enhance the patient's confidence. (5) Auxiliary training. Acupuncture can be used to stimulate the recovery of the function of patients. Daily use of acupuncture to stimulate the patient's "Zusanli", "Quchi" and "Yangxi" points for 15 min each. The cognitive function, motor function and quality of life scores were compared between the two groups after treatment.

1.3 Judgment Criteria

Cognitive function MMSE scale was used to evaluate the patients. After nursing treatment, increment ≥ 4 points show significantly improvement, increment of 1–3 points show improvement, and same or lesser score shows that no significant effect[2].

Sports function score evaluates the motor function by using the FMA scoring criteria. The total score is 100 points, while the higher the score, the better the motor function[3].

The quality of life score was judged by the Quality of Life Scale, which included four dimensions: somatic function, psychological function, social function and material function. Each score was 100 points, the higher the score, the better the quality of life[4].

1.4 Statistical processing

In this study, the measurement data was presented as ($\bar{x} \pm s$). The data between groups were compared using *t* test. P <0.05 showed that the data were statistically significant different.

2. Results

2.1 Comparison of cognitive function and motor function scores

After nursing care, the scores of cognitive function and motor function were significantly higher in the study group than in the control group (P <0.05) (Table 1).

Table 1. Cognitive function and motor function score of two groups of patients after nursing treatment ($\bar{x} \pm s$)

Groups	Cognitive function group	Exercise function group
Study Group (n=38)	29.2±5.3	54.2±5.6
Control Group (n=38)	23.1±4.6	45.8±4.7
t	8.2354	9.6379
P	0.025	0.006

2.2 Comparison quality of life scores of two groups after nursing treatment

After nursing treatment, the quality of life scores of somatic function, social function, psychological function and substance function were significantly higher in the study group than those in the control group (P <0.05) (Table 2).

Table 2. Comparison of quality of life scores between two groups of patients after nursing treatment ($\bar{x} \pm s$).

Group		Physical function	Social function	Psychological function	Material function
Study (n=38)	Group	68.2±4.1	65.6±3.9	66.8±3.7	64.2±5.9
Control (n=38)	Group	52.6±2.4	55.6±3.7	54.8±3.9	51.0±3.0
t		8.9814	8.1236	8.3651	8.6634
P		0.002	0.035	0.030	0.029

3. Discussions

Stroke is caused by a variety of factors caused by cerebral artery stenosis and occlusion, which will cause the blood circulation disorder. As the aging of our population is intensified, the number of stroke patients showed a rising trend. The patient's cognitive function, motor function and quality of life were greatly affected[5]. Cognitive disorders are associated with atrophy of the cerebral cortex and nerve cells in patients, which affecting the movement and living capacity of the patient and increasing the risk of falls. Motor function refers to the patient's athletic ability. Nerve cells in stroke patients are damaged. Stroke will affect the domination of motor nerve and affect the patient's athletic ability[6]. Over time, it will inevitably cause muscle and nerve atrophy. The patient's cognitive function and motor function are affected, which will further affect the quality of life of patients[7]. Therefore, scientific treatment and nursing measures are required.

In the clinical care of patients with stroke, the routine care is mainly involved disease care, life care, complication nursing and rehabilitation care. Rehabilitation nursing model is lacking of scientific theoretical guidance due to the lack of a better environment, leading to rehabilitation care only focuses on walking exercise[8]. Rehabilitation care is also the responsibility of the patient's family. The rehabilitation system requires full participation of nurse's enthusiasm and initiative. A comprehensive assessment is conducted on the patient's condition according to the actual situation of patients during rehabilitation nursing model. The model is divided into early, mid, late care, and auxiliary care. To enhance the nursing effect, scientific care and enthusiasm of nurses have a high clinical value.

Stroke will have a certain impact on the patient's neurological function. Then, stroke will cause damage to the cerebral

cortex and affect the patient's cognitive function and motor function. In patients with clinical care, the conventional nursing model cannot promote the recovery of patients with neuromuscular disorders[9]. The rehabilitation model involves gradual movement of the guiding means, stimulation of the patient's nerve and muscle function, thereby enhancing the patient's cognitive function and motor function. In this study, the scores of cognitive function and motor function were significantly higher in the study group than in the control group.

Stroke can cause hemiplegia, which can affect the quality of life of patients. Besides, it also cause greater financial burden to family of patient[10]. In the clinical care of patients, the rehabilitation system enhances the patient's physical function through rehabilitation training and assisted training and also psychological care. After improvement of the psychological function of patients, cognitive function and motor function will also be improved. Therefore, the system of rehabilitation care for patients with stroke has a good significance. In this study, the quality of life scores of somatic function, social function, psychological function and substance function were significantly higher in the study group than those in the control group.

In conclusion, rehabilitation system has a better care effect compared with conventional nursing models in the clinical care of patients with stroke. The system can enhance the patient's cognitive function, motor function and quality of life with higher clinical application and promotion value.

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