ISSN 2618-1584 Vol. 4, Issue 5: 10-13, DOI: 10.25236/FMSR.2022.040502

Effect of rehabilitation therapy for cognitive impairment in elderly stroke on cognitive function score

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Abstract: *Objective: To explore the effect of rehabilitation treatment of cognitive impairment on cognitive function of elderly stroke patients. Methods: 120 elderly stroke patients treated in our hospital from January 2021 to January 2022 were selected to carry out a retrospective study. 60 patients with conventional treatment were set as the control group and 60 patients with cognitive impairment rehabilitation were set as the study group. The cognitive function score, neurological deficit score and simple intelligence state score of the two groups were compared before and after treatment. Results: the cognitive function score, neurological deficit score and simple intelligence state score of the study group before nursing were compared with those of the control group (P > 0.05); After nursing, the cognitive function score and simple intelligence state score of the study group were higher than those of the control group, and the neurological deficit score was lower than that of the control group (P < 0.05). Conclusion: the rehabilitation treatment of cognitive impairment for elderly stroke patients can not only promote the recovery of damaged neurological function, but also improve their cognitive function and intellectual state.*

Keywords: *Stroke; Elderly patients; Cognitive impairment; Rehabilitation treatment; Cognitive function; influence*

Cognitive impairment refers to the dysfunction of one or more cognitive domains of patients due to various reasons. About 80% ~ 85% of stroke patients have cognitive impairment. It can be seen that cognitive impairment is very common in stroke patients [1]. In the past, the clinic paid more attention to the abnormal physical performance caused by stroke, but ignored the neuropsychological performance of patients. In fact, although a person has cognitive impairment and can maintain a certain degree of independence, cognitive impairment will still have a negative impact on the patient's emotion, behavior and body function. In order to improve the long-term prognosis of patients, the clinic must carry out rehabilitation treatment for cognitive impairment. In this paper, 120 elderly stroke patients treated in our hospital from January 2021 to January 2022 were selected to explore the impact of cognitive dysfunction rehabilitation on patients' cognitive function.

1. Methods and data

1.1 Research object

A retrospective study was conducted on 120 elderly stroke patients treated in our hospital from January 2021 to January 2022. 60 patients with different treatment schemes were set as control group and study group respectively. Study Group: 36 males and 24 females; The average age was (73.46 ± 11.29) years; There were 46 cases of cerebral infarction and 14 cases of cerebral hemorrhage. Control group: 38 males and 22 females; The average age was (73.56 ± 11.18) years; There were 45 cases of cerebral infarction and 15 cases of cerebral hemorrhage. Input the above information into the statistical software for calculation, P > 0.05, and the two groups can be compared.

Inclusion criteria: ① consistent with the relevant standards in the Chinese guidelines for rehabilitation treatment of stroke [2]; ②In stable period, vital signs are stable; ③First onset; ④No other treatment; ⑤The patients and their families knew the contents of the study and agreed to the patients' participation, and the application for the study was also approved by the medical ethics committee.

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Exclusion criteria: ①complicated with other cerebrovascular diseases; ②Cognitive dysfunction, physical dysfunction and intellectual abnormality existed before the onset of the disease; ③Suffering from malignant tumors and other serious diseases; ④Unable to cooperate with the researcher due to mental illness, poor compliance and other reasons.

1.2 Method

Routine treatment was carried out in the control group: according to the type of stroke, patients with intracerebral hemorrhage were treated with surgery to remove hematoma, antiplatelet coagulation drugs to dredge blood vessels and improve internal circulation. In addition, dehydrators and neurotrophic agents were used to carry out limb rehabilitation training.

The study group received additional rehabilitation treatment for cognitive impairment: first, the cognitive function of patients was evaluated with Montreal cognitive assessment scale. Those with a score of less than 26 had cognitive impairment, and should be treated with enhanced cognitive function: ①time, space and character discrimination training: first show the patients their relatives and friends, place of residence and current time, and ask the patients to learn to distinguish time, And can independently describe the characters and places displayed. ②Number practice: medical staff use cards with numbers to guide patients to understand the basic number of words, and then guide them to sort and calculate numbers, so as to guide patients to carry out logical thinking and improve their cognitive impairment.③Training of language ability and memory ability: family members communicate with patients more, guide them to recall the past and stimulate patients to improve their memory; Read for the patient for about half an hour every day. The patient can imitate his mouth shape when the medical staff or the patient's family members read the newspaper or touch his throat to achieve the purpose of learning pronunciation. When practicing, start with monosyllabic and gradually transition to polysyllabic or word and sentence practice.④Reasoning ability exercise: place a variety of daily necessities in the ward, guide the patient to describe the name and purpose of the items, and enable the patient to accurately classify the items.

1.3 Observation indicators

The cognitive function score, neurological deficit score and simple intelligence state score of the two groups were compared before and after treatment. Among them, the neurological deficit score was evaluated by the neurological deficit scale of the National Institutes of health. There were 11 items such as upper and lower limb movement, language, consciousness level, neglect and ataxia, with the highest score of 42. The score was positively correlated with the degree of nerve damage [3]. The cognitive function score is assessed by Montreal cognitive assessment scale, which has 11 dimensions, including calculation, orientation, memory, abstract thinking, attention and concentration, visual space, language ability and executive function, with a maximum of 30 points. The score is positively correlated with the degree of cognitive impairment [4]. The concise intelligence state score is evaluated by the simple intelligence state examination scale. It has 7 items: time orientation, visual space, place orientation, immediate memory, delayed memory, language, attention and computing power, with a maximum of 30 points. The score is positively correlated with the intelligence level [5].

1.4 Data analysis method

Input to spss21 0, and the quantitative data were verified by T and expressed by mean ± standard ($\bar{x} \pm s$) difference. Whether it has statistical significance depends on whether it is $p < 0.05$.

2. Results

See Table 1. The cognitive function score, simple intelligence state score and neurological deficit score of the study group before nursing were compared with those of the control group, $P > 0.05$; After nursing, the scores of cognitive function, simple intelligence state and neurological deficit in the study group were higher than those in the control group ($P < 0.05$).

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3. Discussion

Cognitive impairment after stroke will have adverse effects on patients' emotional and physical conditions. Elderly patients are complicated with a variety of basic diseases. Cognitive impairment will affect the progress of postoperative rehabilitation treatment, and then make patients have a bad prognosis. Routine treatment can reduce the impact of stroke, but there is a lack of targeted intervention on cognitive impairment. Therefore, the intervention effect on cognitive impairment after stroke is limited, and patients are still prone to cognitive impairment. The rehabilitation treatment of cognitive impairment can carry out targeted intervention for the cognitive abnormalities of patients, and can realize the benign stimulation of neural function. It can not only protect the damaged neural tissue, but also expand the capillaries around the focus, promote the formation of cardiovascular system, and improve the cerebral circulation; Moreover, the rehabilitation of cognitive impairment can intervene in memory, logical thinking ability and language ability, which can make nerve cells more excited. After combined with conventional treatment, it can play a stronger role, and effectively restore the damaged nerve function of patients. The results showed that the cognitive function score, simple intelligence state score and neurological deficit score of the study group after nursing were higher than those of the control group ($P < 0.05$), which can reflect the positive improvement effect of cognitive impairment rehabilitation treatment on patients' neurological function, intelligence level and cognitive function.

4. Conclusion

Post stroke patients are prone to cognitive impairment. Clinical rehabilitation treatment of cognitive impairment can be carried out for patients on the basis of routine treatment, so as to improve their cognitive impairment and improve their neurological function and intelligence level.

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ISSN 2618-1584 Vol. 4, Issue 5: 10-13, DOI: 10.25236/FMSR.2022.040502

Table 1: Comparison of cognitive function score, simple intelligence state score and neurological deficit score before and after treatment ($\bar{x} \pm s$)

grouping	Neurological deficit score (score)				Cognitive function score (score)				Simple intelligence state score (score)			
	Before treatment	After treatment	t	P	Before treatment	After treatment	t	P	Before treatment	After treatment	t	P
research group（n=60)	14.42±3.53	6.02±1.09	17.612	0.000	14.77±2.69	27.93±4.89	18.265	0.000	15.64±3.51	29.65±5.77	16.068	0.000
control group（n=60)	14.54±3.77	8.99±2.21	9.838	0.000	14.65±2.53	20.12±2.04	13.037	0.000	15.88±3.62	22.69±4.03	9.738	0.000
t	0.180	9.336			0.252	11.418			0.369	7.660		
P	0.857	0.000			0.802	0.000			0.713	0.000		