Impact of rehabilitation on activities of daily living of stroke patients

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ABSTRACT

Objective: To investigate the effect of rehabilitation intervention on activities of daily living of stroke patients tracking. Methods: A randomized, controlled, single-blind study was conducted from January 2014 through December 2015, 60 cases of hospitalized patients with stroke as the observation group, using track rehabilitation intervention from January to December in 2015; and 60 hospitalized patients with stroke as the control group, using conventional rehabilitation interventions from January to December in 2014. Their ADL was assessed by using modified Barthel index and compared. Results: Before the intervention, the two groups showed no significant difference in MBI score; after the intervention, the difference between the two groups MBI score and before treatment were significant (P<0.05), compared the BMI between observation group (81.42 ± 14.28) and control group (59.23 ± 12.37), the difference between the two groups was significant (P<0.01) Conclusions: The track rehabilitation intervention is more effective in improving activities of daily living in stroke patients.

1. Introduction

Partial (or fully) stroke has rapid progress in cerebral dysfunction, with high incidences, high mortality, high morbidity, and high recurrence rate. It can cause serious death[1].

In China, the incidence of stroke is 200 over 10 million, more than 70 percent of the survivors have various of dysfunction , 40 percent of them have severe disability, which affect the quality of life seriously , and increase the burden on the family members as well as the in society[2-4]. Track rehabilitation intervention is an essential part of rehabilitation. The aim is to maximize the recovery of limbs movement, cognitive, speech and other functions as well as to improve patient activities of daily living. From January to December 2015, 60 cases of stroke patients were selected by using tracking rehabilitation intervention, the results were as follows.

2. Material and methods

2.1. Clinical information

From January to December 2014, 60 hospitalized stroke patients were selected as the control group, including 33 cases male and 27 females , aged from 46 to 82 years, average age as (66.56 ± 2.24) years. There were 17 cases with cerebral hemorrhage, and 43 cases with cerebral infarction. Another 60 cases with stroke were selected as the observation group, including 32 males and 28 females, aged from 40 to 84 years, average age as (67.58 ± 1.37) years. There were 20 cases of cerebral hemorrhage, and 40 cases of cerebral infarction. Inclusion criteria were as the guides[5]. Exclusion criteria were as follows: serious organic disease, severe cognitive impairment and the patients who were not cooperative. Differences in gender, age and nature of pathology were not significant between these two groups (P>0.05).
2.2. Research methods

Patients in control group received conventional rehabilitation interventions for treatment; while patients in observation group received the formula on the basis of conventional rehabilitation. Their activities of daily living was assessed by using modified Barthel index score (MBI)[6], and it differed with modes of rehabilitation intervention in patients MBI score.

2.3. Rehabilitation intervention

2.3.1. General rehabilitation intervention

Rehabilitation training was performed 1 hour daily in afternoon, 6 days per week for 30 days. All patients received ADL skills training. The main trainings involved: sitting-up at the bedside, transferring from bed to chair, movement of upper limbs, sitting balance, standing up and sitting down, walking, climbing stairs up and down; eating, cleaning, brushing teeth, bathing, wearing or taking off blouses and pants.

2.3.2. Tracking rehabilitation intervention

Knowledgeable and experienced medical staffs from rehabilitation specialist were selected as rehabilitation supervisors. They monitored as well as guided the patient's progress on ADL daily from 07:00 to 18:00 (especially during the time from waking up, brushing to meal time), such as changing position in the bed, Bobath handshaking training etc. For wheelchair bound patient, they focused on the transferring skills, and eating training intervention was conducted for patients who had the ability to eat. Furthermore, they communicated with patients as well as their families at any time, provided health educations on stroke, encouraged patients to change the habits of independence after the stroke in order to form self-concept of rehabilitation. In addition, assisting therapists carried out rehabilitation training for patients daily, and communicated with the therapist regularly in order to understand patients' rehabilitation progress. Besides, they adjusted the intervention program according to patients' rehabilitation status.

2.4. Statistical methods

SPSS16.0 statistical software was used. Counting data was analyzed by using chi-square test. Measurement data was expressed as mean ± standard deviation, and analyzed by using t test. P<0.05 indicated that difference was statistically significant.

3. Results

Before intervention, MBI score in two groups were similar (38.46±13.27 vs. 37.38±12.34, t=1.988, P=0.362); after the intervention, the differences in MBI were significant (81.42±14.28 vs. 59.23±12.37, t=26.865, P=0.000). After treatment, MBI were significantly increased in observation (t=-9.582, P=0.000) and control groups (t=-2.316, P=0.036).

4. Discussion

The major onset of problem after stroke is motor dysfunction, impact on daily living and quality of life seriously, so that rehabilitation training help to improve symptoms in patients with neurological deficits[7,8]. In this study, two groups of patients before rehabilitation intervention, MBI score is low and similar, indicating that patients has less activities of daily living, poor quality of life after the stroke. Through the rehabilitation intervention, study showed that two groups of patients MBI scores higher than before intervention (P<0.05), and the observation group was significantly higher MBI score than control group (P<0.01). Therefore, improving the tracking stroke patients ADL rehabilitation intervention was better than conventional rehabilitation intervention. The most advantage of tracking rehabilitation intervention is patients applied what they have learned with conventional rehabilitation in daily activities; improved their interest and enthusiasm in ADL training. And it also emphasized the normative, continuous and systematic in ADL training. In the study, according to the patient activities of daily living, and the effective supervision of patient's ADL training, we have established rehabilitation supervisor.

Studies have shown that the impact of lower extremity muscle strength decreased ability to improve stroke patients ADL[9]. Lower extremity muscle strength is much weaker than upper limbs in the elderly, and most ADL activities are associated with lower extremity. Hence, strengthen the lower extremity muscle will be able to reflect fully between the muscle and ADL. Standing, walking and other activities of ADL depend on the balancing capabilities for protection [10]. Additional, track rehabilitation interventions focus on patient muscle strength, balancing as well as ongoing during patient hospitalized as the limb function training guideline; therefore, it has built a good foundation for the ADL training progress. However, due to the limb function intensity, lack of sufficient time in the conventional rehabilitation training, so that the effect in control group has been showed slowed in ADL training.

Track rehabilitation interventions also emphasize patient mental activity, family support and so on; it is another crucial factor to make the effect in patient ADL significantly. Psychosocial stressed negative impact on the rehabilitation of stroke patients, and the more severe stress, the slower the recovery of the patient. Psychosocial also stressed that stroke patients who have morbid psychology and behavioural response, which cause the voluntary and passive
movement of paralyzed limbs are reduced, thus affecting the patient’s rehabilitation and ADL\cite{11,13}. Sun et al\cite{12} stated anxiety, depression and other negative emotions are harmful to the recovery of stroke patients in ADL, and good social support for promoting the recovery of ADL actively. Most patients or family members with low self-efficacy in rehabilitation may take greater physiological process with the long-term care, mental stress and financial problem. Therefore, track rehabilitation intervention strengthened the ADL rehabilitation guides as well as social support in patients with stroke, improved the active participation of family members motivation and self-efficacy, and the ability of stroke patients in ADL as well\cite{14,15}.

In conclusion, track rehabilitation intervention can strengthen ADL training and improve patient's ability in ADL effectively, but also promote patient recovery as well as improve their quality of life. Hence, it is highly recommended for clinical application.

References


