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Task-Oriented Rehabilitation Nursing with Thematic Health Education Improves Functional Recovery and Health Knowledge, Attitudes, and Practices in Elderly Post-Stroke Lower Extremity Hemiplegia

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Abstract: *Objective:* When providing care for elderly patients with hemiplegia of the lower extremities after stroke, task-oriented rehabilitation nursing combined with thematic health education was adopted to analyze the effect of such nursing measures. *Methods:* Fifty patients were randomly selected, all of whom were patients with lower extremity hemiplegia after stroke admitted to a certain rehabilitation hospital. The admission period was from September 2021 to August 2024. They were evenly divided by random lottery, with 25 cases in each group. Conventional nursing was used in the control group, and task-oriented rehabilitation nursing combined with thematic health education was used in the observation group. Analyze the effects produced by different nursing measures. *Results:* There was a significant difference in the FMA scores between the two groups of patients before and after the intervention, both of which increased significantly, and the improvement in the observation group was even greater ($P < 0.05$). There was a significant difference in the scores of health knowledge, attitude and practice between the two groups of patients before and after the intervention, both of which improved significantly, and the improvement in the observation group was even greater ($P < 0.05$). *Conclusion:* When providing nursing care for elderly patients with hemiplegia of the lower extremities after stroke, the application of task-oriented rehabilitation nursing combined with thematic health education can significantly improve their lower extremity function and health knowledge, attitude and practice.

Keywords: Elderly stroke; Hemiplegia of the lower limbs; Task-oriented rehabilitation nursing; Thematic health education

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1. Introduction

Stroke has become very common in China, and its prevalence rate constantly increasing. This disease is caused by cerebral circulation disorders, and patients can show obvious brain tissue damage [1]. Although current diagnosis and

treatment technologies are constantly improving and green channels have been established for such patients in clinical practice, and many hospitals have set up stroke centers, this disease still has a sudden onset and a relatively high mortality and disability rate. It is a major factor leading to the death of the elderly group [2]. When the disease occurs in the brain, the patient's neurological function is damaged to varying degrees, which in turn affects the function of the lower limbs, resulting in a considerable number of patients with hemiplegia of the lower limbs. For patients with a damaged central nervous system, functional repair requires reshaping the brain structure and reorganizing brain functions. A large number of clinical practices have confirmed that carrying out rehabilitation nursing as early as possible can improve the lower extremity function of patients, reduce the risk of disability, and enable them to achieve good social outcomes [3]. Conventional rehabilitation care has significant limitations. It overly relies on experience and lacks flexibility. However, the elderly group has limited awareness, insufficient motivation, and low compliance, making it difficult to achieve ideal rehabilitation results. Task-oriented rehabilitation nursing is a new nursing approach. It has a clear goal, sets tasks for patients, and adjusts the training methods suitable for patients based on their feedback to achieve the desired training effect [4]. However, patients' knowledge, attitude, and practice regarding disease health will affect their rehabilitation effect. By using thematic health education, health education is no longer rigid and aimless. It sets clear goals for patients to achieve the ideal rehabilitation effect [5]. Therefore, in this study, when providing care for elderly patients with hemiplegia of the lower extremities after stroke, task-oriented rehabilitation nursing combined with thematic health education was adopted to analyze the role of such nursing measures in the recovery of lower extremity function and health knowledge, attitude, and practice.

2. General information and methods

2.1. General information

Fifty patients were randomly selected, all of whom were patients with lower extremity hemiplegia after stroke admitted to a certain rehabilitation hospital. The admission period was from September 2021 to August 2024. Inclusion criteria: (1) Conforming to the diagnostic criteria in reference [6]; (2) Having a clear consciousness and the disease is in the recovery stage; (3) The clinical data are true and complete. Exclusion conditions: (1) Complete loss of language and physical functions; (2) There are mental system disorders; (3) There is a malignant tumor; (4) Insufficiency of liver and kidney functions; (5) Hemiplegia caused by other reasons. They were evenly divided by random lottery, with 25 cases in each group. In the control group, there were 15 male and 10 female cases, respectively, in terms of gender, with ages ranging from 60 to 89 years old, and the average age was (70.58 ± 4.61) years old. The shortest course of hemiplegia was 1 month, the longest was 6 months, and the average was (3.14 ± 0.45) months. Stroke types: 18 cases were ischemic and 7 cases were hemorrhagic. In the observation group, there were 16 male and 9 female cases, respectively, in terms of gender, with ages ranging from 60 to 88 years old, and the average age was (70.51 ± 4.23) years old. The shortest course of hemiplegia was 2 months, the longest was 6 months, and the average was (3.56 ± 0.23) months. Stroke types: 19 cases were ischemic and 6 cases were hemorrhagic. There was no difference in the data between the two groups of patients ($P > 0.05$).

2.2. Methods

Conventional care was used in the control group. After the patients' conditions were stable, the nursing staff provided them with health knowledge education and guidance in a conventional way, such as distributing health knowledge handbooks and playing videos, informing them of disease-related knowledge, making them clear about the key points of disease recovery, and giving them medication guidance, dietary guidance and life guidance. Rehabilitation training

was carried out for them, mainly including physical training, gait training, and daily life training. The nurse demonstrated the movements first, and the patients imitated. The training was persisted in, twice a day, for half an hour each time, and was conducted for 5 days a week.

Task-oriented rehabilitation nursing combined with thematic health education was used in the observation group. The specific approach was as follows:

(1) Task-oriented rehabilitation nursing

Based on the patients' conditions, the content of rehabilitation exercises was set, and goals were established, such as the range of motion during training and the training duration. The patient is in a supine position and performs bridge exercises and straight leg raising training. For the former, the patient is instructed to place their hands above the abdomen, approximately 10 cm high, and raise the pelvis until it is level with the abdomen and the palm can be touched. The patient is required to hold this position for 5 seconds. The latter requires that the soles of the feet be kept 15 cm away from the ground and maintained for 5 seconds as well. The patient lies in a supine position, raises both hands, wraps them around the head, and supports both lower limbs completely off the bed surface to exercise the strength of the trunk. The patient takes a sitting position, leans slightly forward, and practices picking up objects in front. The weight can be flexibly set. Standing and sitting training can enhance the mobility of the hip, knee and ankle joints. Keep changing positions, from supine to kneeling, then to standing, and finally to walking. Each training session lasts for 30 minutes, twice a day, 5 days a week.

(2) Thematic health education

After nurses organize the educational content based on patients' needs, they set a theme every week and carry out targeted educational work. In the first week, the theme was determined as "Common Knowledge about Hemiplegia After Stroke." Through distributing health knowledge handbooks, text and pictures, playing videos, and PPT presentations, patients were organized to give centralized lectures to introduce the causes, pathogenesis and hazards of this disease. Then, a quiz with prizes was held in combination with the educational content, and patients who answered correctly were given gifts as encouragement. In the second week, the theme was determined as "The Role of Rehabilitation Belief in the Recovery of Hemiplegia After Stroke," informing patients of the impact of their psychological state on the disease, enabling them to adjust their emotional state, face the disease with an optimistic attitude, enhance their rehabilitation belief, maintain healthy behaviors, and persist in rehabilitation training. In addition, guide patients to regulate their psychological emotions through listening to music, reading books and other means, list successful treatment cases for patients, and invite patients with good recovery to share their experiences and insights to enhance patients' belief in recovery. In the third week, the theme was set as "Daily Precautions for Hemiplegia after Stroke," mainly guiding medication, diet and lifestyle to patients. It aimed to make patients realize the importance of taking medicine as prescribed by the doctor, introduce specific medication methods to them, help them understand dietary taboos, clarify their body's nutritional needs, maintain a balanced diet, adjust their previous unhealthy eating habits, and supplement with more high-quality protein and vitamins. Adhere to a light diet, eat small meals frequently, quit smoking and drinking, have a regular life, good habits, a peaceful state of mind and sufficient sleep. In the fourth week, the theme was set as "Rehabilitation Exercises for Hemiplegia after Stroke." The specific content of the rehabilitation exercises was introduced in detail. The nursing staff recorded the entire movement process and sent it to the patient, allowing them to learn by following the video and master the key points of the movements, and practice more privately. Both groups received 3 months of nursing intervention and were followed up after discharge.

2.3. Observation indicators

(1) Lower extremity motor function: Evaluated using the Fugl-Meyer Motor Function Scale (FMA). The total score of the lower extremity FMA was 34 points, and the higher the score, the more advantageous it was.

(2) Health Knowledge, Attitude and Practice: The assessment is conducted through the self-developed knowledge, attitude and practice evaluation scale of our hospital, covering aspects such as cognition, health beliefs and health

behaviors, with a total of 30 items, scored from 0 to 1. The higher the score, the more advantageous it is.

2.4. Statistical methods

The data was entered into the SPSS 25.0 system software for processing. A P value < 0.05 indicated a significant difference.

3. Result

3.1. FMA scoring situation

There was a significant difference in the FMA scores between the two groups of patients before and after the intervention, both of which increased significantly, and the improvement in the observation group was even greater (P < 0.05). For details, please refer to **Table 1**.

Table 1. Comparison of FMA score results before and after intervention in the two groups of patients (± s/ point)

Groups	Number of examples	Pre-intervention	Post-intervention
Control subjects	25	19.17 ± 2.78	25.25 ± 3.67
Observation group	25	19.23 ± 2.81	28.26 ± 3.71
t	/	0.076	2.884
P	/	0.940	0.006

3.2. Results of health knowledge, attitude and practice scoring

There was a significant difference in the scores of health knowledge, attitude and practice between the two groups before and after the intervention, both of which improved significantly, and the improvement in the observation group was even greater (P < 0.05). For details, please refer to **Table 2**.

Table 2. Comparison of the scores of health knowledge, attitude and practice of the two groups of patients before and after the intervention

Groups	Number of examples	Cognitively		Health beliefs		Healthy behaviour	
		Pre-intervention	Post-intervention	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Control subjects	25	3.67 ± 0.67	6.56 ± 0.45	4.56 ± 1.23	6.56 ± 0.67	4.45 ± 1.24	6.34 ± 0.78
Observation group	25	3.78 ± 0.72	8.46 ± 0.56	4.78 ± 1.18	8.23 ± 0.76	4.52 ± 1.34	8.34 ± 0.82
t	/	0.559	13.224	0.645	8.242	0.192	8.836
P	/	0.578	< 0.001	0.522	< 0.001	0.849	< 0.001

4. Discussion

Even if a stroke patient is successfully rescued, various sequelae may occur, and hemiplegia of the lower extremities is one of them. This makes it impossible for the patient to get up and move around, affecting their normal social interaction and life, and causing them to develop dependent behaviors [7]. A large number of clinical studies [8,9] have

found that starting rehabilitation training for patients as early as possible is extremely important for improving their limb function and enhancing their operational ability, enabling them to return to normal life better. However, the elderly group has limited understanding and a weak belief in disease recovery, making it difficult for them to persist in rehabilitation training for a long time, resulting in an unsatisfactory final rehabilitation effect. However, the effect of conventional clinical rehabilitation training methods is limited, the nursing goals are not clear enough, and some patients do not complete the rehabilitation exercises as required, resulting in an unsatisfactory rehabilitation effect [10]. It can be seen that setting rehabilitation goals is very crucial for the recovery of diseases.

Task-oriented rehabilitation nursing makes nursing work goal-oriented. Patients no longer exercise blindly. They complete the requirements of medical staff with tasks, constantly surpass themselves, and achieve rehabilitation goals. This helps to stimulate their potential, enables them to exert their subjective initiative, actively cooperate with rehabilitation training, and also adjust appropriate training methods based on the feedback from patients. Enhancing its rehabilitation effect is of great significance for the later rehabilitation of the disease [11]. Thematic health education means clarifying a theme and then conducting health education and publicity work around it. This makes health education and publicity more targeted and thereby deepens patients' understanding of diseases [12]. The above two nursing models can make up for the deficiencies of conventional nursing. When used in combination, they can exert the maximum effect [13,14]. This study found that the FMA and health knowledge, attitude and practice scores of the observation group after intervention were higher than those of the control group, confirming that the combination of the above two nursing models enhanced the lower extremity function of patients and improved their health knowledge, attitude and practice, which was consistent with the research results in literature [15]. The reason for this: Thematic health education conducts health education on different themes for patients, making the teaching more detailed and purposeful, which is easier for patients to master and makes them more vigilant, realizing the importance of a good state of mind for the recovery of the disease. Then, through case studies and experience sharing, patients can obtain more positive feedback information, adhere to the belief of disease recovery, and then consciously correct their unhealthy behaviors. Improve their level of health knowledge, attitude, and practice. In coordination with the joint task-oriented rehabilitation nursing, patients are encouraged to actively participate, complete the rehabilitation exercise tasks with both quality and quantity, ensure the training intensity, and thereby restore their motor functions as soon as possible and improve their lower limb functions.

5. Conclusion

To sum up, when providing care for elderly patients with hemiplegia of the lower extremities after stroke, the adoption of task-oriented rehabilitation nursing combined with thematic health education can significantly improve their lower extremity function and health knowledge, attitude and practice.

Disclosure statement

The author declares no conflict of interest.

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