Effect of Continuous Nursing Model on Rehabilitation of Patients with Acute Stroke

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Abstract
Cerebral stroke is also known as stroke and cerebrovascular accident (CVA). It is an acute cerebrovascular disease, a group of diseases, including ischemic and hemorrhagic stroke, which are caused by sudden rupture of blood vessels in the brain or the failure of blood to flow into the brain due to blockage of blood vessels. The incidence of ischemic stroke is higher than that of hemorrhagic stroke, accounting for 60%-70% of the total number of stroke. The occlusion and stenosis of internal carotid artery and vertebral artery can cause ischemic stroke. Most of them are over 40 years old. Males are more than females. Serious cases can cause death. During the transfer period from hospital to family, patients often face health problems such as insufficient knowledge of stroke, low discharge compliance and lack of rehabilitation skills. In order to help patients transfer safely from hospital to family, improve their self-care ability and reduce the rate of re-hospitalization, nursing scholars at home and abroad have carried out a variety of nursing intervention explorations. At present, research often separates hospitalization nursing from discharge nursing, and intervention activities lack reference to evidence-based nursing in the past. In this study, we established a localized continuing nursing program for stroke patients by using continuing nursing model and referring to the empirical recommendation of evidence-based nursing. Randomized controlled clinical trials were used to test the clinical effect of the program. The results showed that the application effect of high quality continuing nursing model in stroke patients was exact, and the rehabilitation effect was improved.

Key words: Acute stroke, Continuous nursing, Nursing intervention, Health behavior

Efecto del Modelo de Enfermería Continua en la Rehabilitación de Pacientes con Accidente Cerebrovascular Agudo

Resumen
El accidente cerebrovascular también se conoce como accidente cerebrovascular y accidente cerebrovascular (ACV). Es una enfermedad cerebrovascular aguda, un grupo de enfermedades, que incluyen un accidente cerebrovascular isquémico y hemorrágico, que son causadas por la ruptura repentina de los vasos sanguíneos en el cerebro o la falta de flujo de sangre en el cerebro debido al bloqueo de los vasos sanguíneos. La incidencia de accidente cerebrovascular isquémico es mayor que la del accidente cerebrovascular hemorrágico, que representa el 60%-70% del número total de accidentes cerebrovasculares. La oclusión y la estenosis de la arteria carótida interna y la arteria vertebral pueden causar un accidente cerebrovascular isquémico. La mayoría de ellos tienen más de 40 años. Los machos son más que las hembras. Los casos graves pueden causar la muerte. Durante el período de traslado del hospital a la familia, los pacientes a menudo se enfrentan a problemas de salud, como el...
conocimiento insuficiente de los accidentes cerebrovasculares, el cumplimiento de baja del alta y la falta de habilidades de rehabilitación. Con el fin de ayudar a los pacientes a trasladarse de forma segura del hospital a la familia, mejorar su capacidad de autocuidado y reducir la tasa de reingreso hospitalario, los académicos de enfermería en el hogar y en el extranjero han realizado diversas exploraciones de intervención de enfermería. En la actualidad, la investigación a menudo separa la enfermería de hospitalización de la enfermería de alta y las actividades de intervención en el pasado no hacen referencia a la enfermería basada en la evidencia. En este estudio, establecimos un programa de enfermería continua localizado para pacientes con accidente cerebrovascular utilizando el modelo de enfermería continua y refiriéndonos a la recomendación empírica de la enfermería basada en la evidencia. Se utilizaron ensayos clínicos controlados aleatorios para probar el efecto clínico del programa. Los resultados mostraron que el efecto de la aplicación del modelo de enfermería continua de alta calidad en pacientes con accidente cerebrovascular fue exacto y el efecto de rehabilitación mejoró.

**Palabras clave:** Trazo agudo, Enfermería continua, Intervención de enfermería, Conducta de salud.

**1. Introduction**

Stroke, also known as stroke or cerebrovascular accident [1-4]. The World Health Organization defines acute stroke as a rapidly progressing local or global disorder with clinical manifestations lasting longer than 24 hours. Surgical treatment or death may be less than 24 hours, and there is no obvious inducement other than cerebrovascular factors [5]. China is a populous country. With the rapid development of economy and the change of people's life style, stroke has become a major disease that endangers health and life. Stroke is the second leading cause of death worldwide. About 10 million stroke patients die every year in the world [6-7]. The results of the third national death cause survey published by the Ministry of Health in 2008 show that cerebrovascular diseases have become the main cause of death in urban and rural residents, accounting for 22.45% of the total death rate. Stroke has the characteristics of high morbidity, high morbidity, high disability and high mortality [9]. According to statistics, about three quarters of the survivors of cerebrovascular disease have lost their ability to work, and about 40% of them are severely disabled. There are many risk factors for stroke, which can be divided into preventable control factors and unprotectable control factors. Uncontrollable factors include age, gender, race, genetic factors, etc. Preventive control factors account for 90% of the risk factors of stroke, including hypertension, heart disease, diabetes, smoking, lack of exercise, unbalanced diet and so on, which are the main objectives of primary prevention of stroke. Because there is no specific treatment for stroke at present, if the risk factors can be effectively controlled, the occurrence of stroke will be greatly reduced [10].

At present, there are many studies on stroke knowledge among patients, main caregivers and nurses abroad. Studies show that patients and their caregivers have different degrees and different aspects of deficiencies in their knowledge of stroke, and corresponding interventions have been taken in response to the results of the study, and some results have been achieved [11]. The United States-led developed countries in Europe and the United States carried out the implementation of continuing care earlier, and there were many studies on continuing care of stroke [12]. In addition to nursing intervention in hospital, it mainly included continuing nursing intervention after discharge. More experience has been accumulated in continuing nursing research and practice. In the 1980s, Pennsylvania researchers carried out more than 20 years of continuing care for elderly chronic patients in hospitals. Studies show that effective continuing care can reduce the readmission rate of patients by nearly 20% and save health care costs by nearly 50%. In 2011, the United States took "Chronic Disease Management" as a special continuing care project, which proved that continuing care can effectively improve the quality of life of patients and save national health resources. Research has proved that health education and health promotion are the most important and effective means for disease management. Through a series of interventions, patients'self-confidence in disease management can be improved, their health behavior can be effectively improved, their mood can be maintained stable, and their health consciousness and quality of life can be improved. Other studies suggest that intervention in the knowledge, self-efficacy and healthy behavior of discharged patients can improve physical disability, reduce the number of visits, and greatly improve the establishment of self-monitoring vital signs and healthy lifestyle. Effective interventions include formulating nursing plans, issuing disease knowledge manuals, self-monitoring health diaries, establishing disease risk factors feedback cards, timely communication with patients'families, telephone follow-up, etc. [18].

At present, the knowledge level of stroke patients in China is low [19]. Some literature points out that there are some problems such as low compliance of discharge guidance and low satisfaction of discharge nursing for stroke patients. Previous research results suggest that inpatient education and discharge guidance model for stroke patients need to be improved and explored urgently. In our country, the study of stroke nursing will usually study the improvement of in-patient nursing program and discharge nursing program separately, so that the nursing program lacks continuity and coordination [20]. Continuous nursing is a new nursing mode developed in the past 20 years. It extends hospitalization nursing service to family or community, emphasizes
the continuity and coordination of hospitalization nursing plan and discharge nursing plan, and fully reflects the importance of discharge nursing for home rehabilitation and quality of life. Under the guidance of continuing nursing concept and mode, nursing scholars led by the United States actively explored how to improve nursing satisfaction, discharge treatment compliance and quality of life of patients with chronic diseases, and achieved good results. However, there are few studies in China except Hong Kong. In view of a series of problems that stroke patients will face after discharge, such as lifestyle changes, reduced self-care ability, increased safety risks, and the characteristics of disease rehabilitation, we speculate that the continuing nursing model can be applied to the transition period from hospital to family for stroke patients [21]. The design of a reasonable continuing nursing program will help to alleviate the decline in the quality of life and medical expenses of stroke patients. The current situation of overburdened fees. Therefore, the development of continuing nursing intervention program for stroke patients in China will not only help to improve the quality of clinical nursing for stroke patients, but also provide theoretical and practical reference for in-hospital and out-of-hospital nursing for stroke patients [22].

The purpose of this study is to explore the health mode of continuing nursing, explore the effect of continuing nursing mode on the rehabilitation of acute stroke patients, formulate and implement continuing nursing intervention program for stroke patients, and evaluate the effect of intervention by investigating the level of disease-related knowledge, self-efficacy and health behavior of stroke patients after discharge, so as to verify the effect of intervention on stroke patients. The feasibility and validity of continuous nursing with knowledge, belief and practice. At the same time, to explore the difficulties of long-term rehabilitation of stroke patients in the family, and to provide reference for the hospital to improve the nursing service mode of stroke in the future.

2. Proposed Method

2.1. Stroke

1. Pathogenic Reasons

The most common cause of stroke is small embolus on the inner wall of the blood supply vessels of the brain, which leads to arterio-arterial embolism, i.e. ischemic stroke. It may also be caused by cerebrovascular or thrombotic hemorrhage, which is a hemorrhagic stroke. Cardiac valves in patients with coronary heart disease and atrial fibrillation are prone to mural thrombosis. Delayed embolus can block cerebrovascular and lead to ischemic stroke. Other factors include hypertension, diabetes and hyperlipidemia. Among them, hypertension is the most important risk factor for stroke in China, especially abnormal elevation of blood pressure in the morning. The study found that morning hypertension was the strongest independent predictor of stroke events. The risk of ischemic stroke in the early morning was four times that of other periods, the risk of stroke increased by 44% for every 10 mmHg increase in morning blood pressure. Atherosclerosis is the main cause of stenosis and occlusion of internal carotid or vertebral arteries. In addition, carotid intima hyperplasia and hypertrophy, carotid artery trauma, tumor compression of carotid artery, carotid artery thrombosis associated with cervical lymphadenitis and tonsillitis in children, congenital carotid artery distortion, etc. can be caused by collagen diseases, hypertension, rheumatic heart disease or arthritis, hematological diseases, metabolic diseases, drug reactions, tumors, connective tissue diseases, etc. Stenosis and occlusion, or hemorrhage due to vascular rupture caused by stroke. Vertebral artery ischemia can also be caused by hyperosteoegeny of cervical spondylosis or entrapment of skull base into compressing vertebral artery.

Usually there are multiple risk factors, such as smoking, unhealthy diet, obesity, lack of proper exercise, excessive drinking and high homocysteine, as well as some basic diseases such as hypertension, diabetes and hyperlipidemia. It increases the risk of stroke.

2. Clinical manifestations

The most common symptoms of stroke are sudden weakness on one side of the face, arm or leg, sudden fainting and unconsciousness. Other symptoms include sudden numbness on one side of the face, arm or leg, or sudden deviation of the mouth and eyes, hemiplegia, confusion, difficulty in speaking or understanding, difficulty in seeing with one eye or both eyes, difficulty in walking, dizziness, loss of balance or lack of coordination, The cause of severe headache; syncope, etc. According to the severity of neurological dysfunction and the duration of symptoms after cerebral artery stenosis and occlusion, there are three types.

1). Transient ischemic attack (TIA)

The manifestations of internal carotid artery ischemia are sudden limb movement and sensory disturbance, aphasia, transient blindness in one eye, and less conscious disturbance. Vertebral artery ischemia is characterized by vertigo, tinnitus, hearing impairment, diplopia, gait instability and dysphagia. Symptoms lasted less than 2 hours and could recur several or dozens times a day. It can alleviate itself without sequelae. There was no obvious cerebral infarction.

2). Reversible ischemic neurological dysfunction (RIND)
It is basically the same as TIA, but the duration of neurological dysfunction is more than 24 hours, some patients can reach several days or tens of days, and eventually recover completely. There may be small infarcts in the brain, most of which are reversible lesions.

3). Complete Stroke (CS)

Symptoms are more serious than TIA and RIND, deteriorating and common conscious disorders. There was a distinct infarction in the brain. Neurological dysfunction can not be restored for a long time. Complete stroke can be divided into three types: mild, moderate and severe.

3. Examination Method

1). General inspection

By measuring the body height, weight and blood pressure, we can scientifically judge whether the body weight is standard and whether the blood pressure is normal.

2). Medical examination

The basic condition of heart, lung, liver, spleen and other important organs were examined by sight, touch, tapping and hearing, and the related symptoms of common diseases were found, or common diseases were excluded initially.

3). Cerebral angiography

It shows stenosis, occlusion or distortion of cerebral arteries at different locations. When carotid artery stenosis occurs, the neck should be included in the angiogram.

4). Head and neck magnetic resonance angiography (MRA) or high resolution magnetic resonance imaging (HRMRI)

HRMRI can show the whole course of carotid artery. HRMRI is more helpful for the analysis of pathological components of atherosclerotic plaque.

5). Carotid B-mode ultrasonography and transcranial Doppler (TCD) detection

For noninvasive examination, it can be used as a screening method to diagnose the stenosis and occlusion of internal carotid artery and intracranial artery. Carotid ultrasonography can detect carotid artery structure and atherosclerotic plaque morphology, scope, nature, degree of arterial stenosis, etc. Early detection of arterial vascular lesions can provide objective hemodynamic basis for effective prevention and reduction of coronary heart disease, ischemic cerebrovascular disease and other cardiovascular and cerebrovascular diseases. Transcranial Doppler (TCD) was used to investigate the blood flow of intracranial and extracranial vessels, cerebral artery rings and their branches, and to determine whether there were vascular lesions such as sclerosis, stenosis, ischemia, malformation and spasm, Dynamic monitoring of cerebrovascular diseases.

4. Common treatments

Acute stroke can cause permanent nerve injury. If not diagnosed and treated in time in acute stage, serious complications and even death may occur. Stroke can be divided into hemorrhagic stroke and ischemic stroke, and there are different treatment methods according to the location of occurrence. Specific therapies include thrombolysis, antiplatelet therapy, early anticoagulation and neuroprotection. Non-specific therapies include antihypertensive therapy, blood sugar treatment, brain edema and intracranial hypertension management.

1). Drug therapy

Thrombolysis is currently recognized as the most effective treatment for stroke, but there are strict time window requirements (intravenous thrombolysis is limited to 4.5 hours, arterial thrombolysis can be extended appropriately). For the patients with stroke and hypertension, the control of blood pressure in the acute stage of stroke should be carried out according to the guidelines of stroke. For the patients with chronic or old stroke, the target of blood pressure treatment should be < 140/90 mmHg, hyperlipidemia and diabetes, and the target of lowering blood pressure should be < 130/80 mmHg. The principle of antihypertensive therapy for stroke is to control 24-hour blood pressure steadily, persistently and effectively, especially in the morning. Five commonly used antihypertensive drugs can prevent stroke or transient ischemia by lowering blood pressure. Among them, calcium antagonist (CCB) has clear clinical evidence in reducing the risk of stroke. Antihypertensive drugs should start with small doses, closely observe the blood pressure level and adverse reactions, and try to keep blood pressure within a safe range (160/100mmHg). Patients in antihypertensive treatment should start from a small dose, do not reduce blood pressure too fast, in order to prevent cerebral insufficiency. Patients with elevated blood pressure within 24 hours of onset of acute ischemic stroke should be treated with caution. Patients with hypertension, diabetes, hyperlipidemia and other diseases need to take the following medications: aspirin, beta-blockers, angiotensin-converting enzyme inhibitors, statins.

2). Surgery

1) Carotid endarterectomy is suitable for severe stenosis of the extracranial segment of the internal carotid artery (over 70%). The stenosis is located below the mandibular angle and is accessible to surgery. Surgery may also be considered for complete occlusion of internal carotid artery within 24 hours. If the occlusion exceeds 24 to 48 hours, encephalomalacia has occurred, it is not suitable for operation.

2) Extracranial-intracranial arterial anastomosis is effective in preventing TIA attack. Superficial temporal
artery - middle cerebral artery anastomosis, occipital artery - posterior inferior cerebellar artery anastomosis, occipital artery - posterior cerebral artery anastomosis can be selected.

2.2. Continuous nursing

Continuous care: Continuous care is a series of actions designed to ensure that patients receive different levels of collaborative and continuous care in different health care settings (e.g. from hospital to family) and the same health care settings (e.g. different departments of a hospital). It usually refers to continuity from hospital to family, including discharge plans, referrals and patients formulated by the hospital, Continuous follow-up and guidance after returning to the family or community.

Traditionally, patients’ care is limited to hospitalized patients, and nursing services are terminated after discharge. Although most of the patients’ health problems have been solved during hospitalization, many patients still have many health problems when they return home, so the patients after discharge still have a high demand for health care. Continuous nursing is a part of holistic nursing, that is, the extension of hospitalization nursing, which enables discharged patients to receive sustained health care during the recovery period, thus promoting the rehabilitation of patients, reducing the need for re-hospitalization due to deterioration of the condition, and increasing the cost of health services.

1. Types of Continuous Nursing
Continuous care can be divided into three types, including:
(1) Continuation of information: the use of patient information, including past occurrence times and personal circumstances, to make current care suitable for everyone.
(2) Continuation of management: a continuous and consistent management method to respond to the changing needs of patients and to implement the health status of patients.
(3) Continuation of relationships: a continuing therapeutic relationship between patients and one or more health service providers.

2. Contents of Continuous Nursing
Continuous care does not emphasize direct long-term care for discharged patients, but helps patients and their families improve their self-care ability. The guidance for patients is based on evidence-based, usually including:
(1) Drug guidance: drug name, adverse drug reactions, medication methods, coordinated medication, etc.
Dietary guidance: according to the patient’s condition, dietary habits, ability to pay and provide personalized guidance;
(2) Symptom Management and Recognition: Recognition and Response of Symptoms of Deterioration after Discharge;
(3) Home environment: Pinggu provides corresponding suggestions: the use of assistive devices, rehabilitation training, etc.
(4) Utilization of community resources;
(5) Help patients and their families in need to contact home care and social work tools.

2.3. Detection of High Density Lipoprotein

HDL is mainly synthesized in the liver. Its main physiological function is to transport phospholipids and cholesterol. High density lipoprotein (HDL) is an anti-atherosclerotic lipoprotein and a protective factor for coronary heart disease. It can promote the elimination of cholesterol in peripheral tissues and prevent the risk of atherosclerosis. The cholesterol carried by HDL molecule is an endogenous cholesterol ester which is conversely transported into the liver and then cleared the bleeding fluid. High density lipoprotein (HDL) absorbs cholesterol from cell membranes, catalyzes by lecithin cholesterol acyltransferase to form cholesterol esters, and then transfers the carried cholesterol esters to very low density lipoprotein (VLDL) and low density lipoprotein (LDL). HDL contains 20% to 30% of total human cholesterol.

1. Clinical Significance
Abnormal results:
Increase: the most important clinical value is the transfer of foam cells from atherosclerotic plaques to the liver, which can be seen in primary hyperHDL (familial hyperlipoproteinemia). Those who receive estrogen, insulin or some drugs (such as nicotinic acid, vitamin E, heparin, etc.) can also increase. Astaxanthin can significantly increase HDL cholesterol in humans.

Decrease: Common in cerebrovascular disease, coronary heart disease, hypertriglyceridemia, liver function damage such as acute and chronic hepatitis, cirrhosis, hepatocellular carcinoma, diabetes, smoking, lack of exercise and so on can be used as risk indicators of coronary heart disease.

2.4. Triglyceride Detection
Triglycerides are esters composed of glycerol and fatty acids. The glycerol fractions of various triglycerides are the same, while the fatty acid fractions may be the same or different.

1. Clinical Significance
   Abnormal results:
   Increase: seen in coronary heart disease, myocardial atherosclerosis, atherosclerosis, hypertension, diabetes, nephrotic syndrome, etc. Higher than 2.26 millimole/liter is called hypertriglyceridemia. Obese people tend to have higher triglycerides.
   Decrease: Common in hyperthyroidism, adrenocortical dysfunction, liver parenchymal lesions, chronic obstructive pulmonary disease, cerebral infarction, cachexia, primary low density lipoprotein (beta-lipoprotein) deficiency and indigestion. Population requiring examination: Routine examination is recommended.

2. Examination Method
   Pre-examination preparation: In the last meal before blood drawing, avoid eating high-fat food and drinking, fasting 12 hours, take forearm venous blood. Attention during examination: If discomfort is found during blood drawing, it is necessary to inform the doctor in time. No unsuitable crowd: no unsuitable crowd.
   Serum TG determination methods can generally be divided into three categories: chemical method, enzymatic method and chromatographic method. The early determination method was based on the difference between total lipids and cholesterol and phospholipids. The TG in samples was extracted by organic solvent. After removing the interfering substances such as phospholipids in the extract, the TG was hydrolyzed (saponified) by alkali and oxidized with periodic acid to form formaldehyde. Then formaldehyde was determined by color reaction. The more accurate method is the Van Handel-Caslon method, which can extract completely, remove the interference of phospholipids and glycerol, have high sensitivity and stability of chromotropic acid, and is still the internal reference method of CDC. However, it is not suitable for routine work because of its various operation steps and high technical requirements. Nuclide dilution/gas chromatography/mass spectrometry (ID/GC/MS) is mainly used for the establishment of a decisive method in the reference system and the preparation and determination of reference materials. This method is expensive and complex in sample processing, which makes it difficult to popularize and apply.

2.5. Cholesterol Examination
   Cholesterol is also an important indicator of clinical biochemical examination. Under normal circumstances, cholesterol synthesized in the liver and ingested from food will be converted into steroids or components of cell membranes, and the concentration of cholesterol in the blood will remain constant. When severe liver lesions occur, cholesterol concentration decreases. In patients with jaundice obstruction and nephrotic syndrome, cholesterol levels tend to rise.

3. Experiments
   1. Sample source
      From December 2017 to December 2018, stroke inpatients were selected by convenient sampling method in neurology departments of two third-level hospitals. Because ischemic stroke accounts for more than 70% of the total number of patients, combined with expert opinions: the safety of nursing intervention in patients with ischemic stroke is higher than that in patients with hemorrhagic stroke, so patients with ischemic stroke are selected as samples in clinical trials.
      2. Inclusion criteria
         1) The first diagnosis of stroke patients;
         2) Diagnostic types include transient ischemic attack (TIA), cerebral thrombosis (CT), and cerebral infarction (CI).
         3) Those with mild neurological deficits [National Institutes of Health Stroke Scale (NIHSS) less than 15 points];
         4) Those willing to participate in the study and sign informed consent;
         5) Return home after discharge, and the family address is within the main urban area.
      3. Exclusion criteria:
         1) Patients hospitalized for less than one week
         2) Cases of death during the study period;
         3) with other critical diseases, such as malignant tumors, heart failure, renal failure, respiratory failure, liver failure, severe trauma, cerebral cortex damage;
         4) Those who had a history of cognitive impairment or mental disorders (referring to the American Diagnostic Criteria for Mental Diseases DSM IV-R);
         5) All cases of incomplete intervention and data collection;
         6) Voluntary withdrawal from the study.
      4. Random grouping
      The patients were randomly assigned to the experimental group and the control group. The control group was
given routine nursing, while the experimental group was given routine nursing and extended nursing. Ninety patients were enrolled in the study, 18 cases dropped out, 72 cases finally met the inclusion criteria, 35 cases in the experimental group and 37 cases in the control group. Independent sample t test was used to compare the age and NIHSS score of the two groups. Chi-square test was used to compare other general conditions. The results showed no statistical difference (P < 0.05). The two groups were comparable.

4. Discussion

4.1. Comparison of Overall Health Behavior at Different Time Points

<table>
<thead>
<tr>
<th>Group division</th>
<th>1 to 3 months</th>
<th>3 to 6 months</th>
<th>6 to 9 months</th>
<th>9 to 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience group</td>
<td>15.142</td>
<td>0.000</td>
<td>15.977</td>
<td>0.000</td>
</tr>
<tr>
<td>control group</td>
<td>0.633</td>
<td>0.521</td>
<td>1.253</td>
<td>0.230</td>
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</tbody>
</table>

![Figure 1. Trend chart of general health behavior in experimental group and control group](image1)

The results of Table 1, Figure 1 and Figure 2 show that the scores of general health behavior of continuing nursing group are higher than those of control group at 6, 9 and 12 months after experiment, and the rising trend of intervention group is larger than that of control group. Continuous nursing intervention is helpful to improve patients' overall health behavior, enhance patients' self-management consciousness and promote self-rehabilitation. Self-realization refers to having a clear goal in life, knowing its own value and life planning, and striving for it actively and diligently in order to realize its own value. Self-actualization is an important part of healthy behavior. The self-actualization scores of the two groups are different at different time points. The intervention group scores are higher than the control group at each time point. The self-actualization scores of the experimental group are more significant than that of the control group over time. After continuing nursing intervention for patients, patients' psychological health and trust in medical staff can be improved. They can correctly treat their own diseases, actively cooperate with the guidance of medical staff, promote patients'
4.2. Effect of Continuous Nursing Intervention on Blood Lipid and Specific Indicators of Stroke Patients

(1) Comparison of total cholesterol level between the two groups

**Table 2.** The results of repeated measurement variance analysis of total cholesterol score at different time points in two groups

<table>
<thead>
<tr>
<th></th>
<th>initial value</th>
<th>1 to 3 months</th>
<th>3 to 6 months</th>
<th>6 to 9 months</th>
<th>9 to 12 months</th>
<th>time effect F value</th>
<th>Grouping effect F value</th>
<th>Interaction effect F value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience group</td>
<td>4.12 ± 0.71</td>
<td>4.14 ± 0.77</td>
<td>4.13 ± 0.62</td>
<td>4.22 ± 0.669</td>
<td>3.76 ± 0.74</td>
<td>0.034</td>
<td>0.189</td>
<td>2.321</td>
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<tr>
<td>control group</td>
<td>4.01 ± 0.73</td>
<td>3.99 ± 0.65</td>
<td>4.12 ± 0.59</td>
<td>4.37 ± 0.81</td>
<td>4.52 ± 1.17</td>
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<td></td>
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</tr>
<tr>
<td>t value</td>
<td>0.314</td>
<td>0.471</td>
<td>0.491</td>
<td>0.814</td>
<td>-1.719</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.823</td>
<td>0.717</td>
<td>0.441</td>
<td>0.183</td>
<td>0.031</td>
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</tbody>
</table>

Table 2 showed that the cholesterol scores of the two groups were different at different time points, the experimental group was higher than the control group; the cholesterol scores of the experimental group were not significantly improved over time compared with the control group, and the difference of cholesterol scores between the two groups was statistically significant (P > 0.05).

![Figure 3. Trend chart of total cholesterol levels](image)

Figure 3 shows that there is no significant change in the first six months after continuing nursing in the experimental group, but it decreases in the sixth month after continuing nursing. In the control group, the change was not obvious in the first six months, but increased in the latter six months.

(2) Comparison of triglyceride levels

**Table 3.** Repeated measurement variance analysis of triglyceride scores at different time points in two groups

<table>
<thead>
<tr>
<th></th>
<th>initial value</th>
<th>1 to 3 months</th>
<th>3 to 6 months</th>
<th>6 to 9 months</th>
<th>9 to 12 months</th>
<th>time effect F value</th>
<th>Grouping effect F value</th>
<th>Interaction effect F value</th>
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</thead>
<tbody>
<tr>
<td>Experience group</td>
<td>1.12 ± 0.31</td>
<td>1.14 ± 0.27</td>
<td>1.13 ± 0.52</td>
<td>1.22 ± 0.49</td>
<td>1.76 ± 0.54</td>
<td>0.71</td>
<td>1.89</td>
<td>0.921</td>
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<tr>
<td>control group</td>
<td>2.01 ± 0.93</td>
<td>1.99 ± 0.65</td>
<td>1.82 ± 0.89</td>
<td>1.63 ± 0.71</td>
<td>1.59 ± 0.67</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>t value</td>
<td>-1.077</td>
<td>-1.471</td>
<td>-1.491</td>
<td>0.814</td>
<td>0.329</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>P value</td>
<td>0.223</td>
<td>0.417</td>
<td>0.441</td>
<td>0.583</td>
<td>0.831</td>
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</tr>
</tbody>
</table>

Table 3 showed that the triglyceride scores of the two groups were different at different time points. The triglyceride scores of the intervention group were not significantly higher than those of the control group over time. There was a significant difference in the triglyceride scores between the two groups (P > 0.05).
Figure 4. Trend chart of triglycerides

Figure 4 shows that there is no significant change in the first six months after continuing nursing in the experimental group, but it increases in the latter six months. Control group Within a year, it declined gradually.

(3) Comparison of High Density Lipoproteins

Table 4. Analysis of variance of repeated measurements of high density lipoprotein scores at different time points in two groups

<table>
<thead>
<tr>
<th></th>
<th>initial value</th>
<th>1to 3 months</th>
<th>3to 6months</th>
<th>6to 9months</th>
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<th>time effect F value</th>
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<tbody>
<tr>
<td>Experience group</td>
<td>1.42 ± 0.41</td>
<td>1.34 ± 0.57</td>
<td>1.23 ± 0.52</td>
<td>1.22 ± 0.39</td>
<td>1.26 ± 0.24</td>
<td>0.112</td>
<td>0.891</td>
<td>0.341</td>
</tr>
<tr>
<td>Control group</td>
<td>1.16 ± 0.25</td>
<td>1.20 ± 0.25</td>
<td>1.22 ± 0.39</td>
<td>1.12 ± 0.21</td>
<td>1.19 ± 0.47</td>
<td></td>
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</tr>
<tr>
<td>t value</td>
<td>1.320</td>
<td>0.231</td>
<td>0.654</td>
<td>0.456</td>
<td>0.592</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.193</td>
<td>0.857</td>
<td>0.441</td>
<td>0.496</td>
<td>0.546</td>
<td></td>
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</tr>
</tbody>
</table>

Table 4 showed that the HDL scores of the two groups did not change significantly with time, and the HDL scores of the experimental group did not increase significantly with time compared with the control group. There was a significant difference in the HDL scores between the two groups (P > 0.05).

Figure 5. Trend Chart of High Density Lipoprotein Change

Figure 5 shows that the level of HDL in the experimental group decreased significantly in the first six months after continuing nursing, but did not change significantly in the last six months. The level of HDL in the control group increased slightly in the first six months and decreased significantly in the last six months.

The results showed that there was no significant difference in the levels of total cholesterol, triglyceride and high density lipoprotein between the experimental group and the control group in the first month, the third
year, month, the sixth month, the ninth month and the twelfth month (P > 0.05); there was no time effect and interaction between the levels of total cholesterol, triglyceride and high density lipoprotein (P > 0.05). At present, due to the time and funding constraints, few domestic scholars use continuing nursing intervention to evaluate the health behavior of stroke patients. The results of this study are inconsistent with relevant studies abroad, and may be related to domestic political, cultural differences and residents’ values. Studies have shown that systematic health education can not change the blood lipid status of patients with ischemic stroke in a short time. The reason may be that the understanding and management of the danger of abnormal increase of blood lipid in stroke patients are lagging behind for a long time, and the understanding of life style such as diet and exercise is insufficient. Although they are guided by medical staff, they have poor compliance. This article only takes one year and takes a short time. Although there are slight changes in each index, the change is not obvious. Therefore, the management of blood lipid is a long-term process. Medical staff should follow up patients regularly, supervise them regularly and review them regularly, so as to form a good model of blood lipid management for nurses and patients.

5. Conclusions

1) Continuous nursing mode is a nursing mode guided by the concept of holistic nursing. It emphasizes the holistic and systematic nature of nursing service. The condition of stroke patients after discharge has not been fully recovered. Continuous nursing mode extends clinical nursing to patients’ families, so that patients can receive professional medical care in family home culture, and plays an obvious role in urging them. Urge patients to take medicine on time, rehabilitation exercises and so on, in the process of persistent supervision and guidance, improve patients' compliance with doctor's advice, significantly improve patients' self-care ability, and improve the quality of life. The high-quality continuity nursing mode in this paper starts with the assessment of patients’ nursing needs before discharge, so as to ensure the pertinence and effectiveness of nursing plan, give patients time to think and measure their home life after discharge, mobilize patients' cooperation enthusiasm, further promote the implementation of various nursing measures after discharge, comprehensively monitor patients' condition changes, so as to facilitate patients. Professional guidance should be given as soon as possible in order to avoid delaying the best treatment opportunity and improve the prognosis. The results showed that the scores of compliance and quality of life in the observation group were higher than those in the control group. In conclusion, the application effect of high quality continuity nursing model in stroke patients is exact, which helps to improve the compliance of patients after discharge and the rehabilitation effect, and is worth promoting.

2) In this paper, the extended nursing model was applied to stroke patients earlier in China, which proved the validity of the application of the extended nursing model in stroke patients, solved the problem of convergence between inpatient care and home care after discharge, and enriched the practical content of the extended nursing. In this paper, the evidence of high recommendation level nursing was applied to the design of stroke nursing activities, and a comprehensive intervention program was established, which included health education, compliance discharge guidance, comprehensive nursing evaluation, home-based rehabilitation training of upper limbs and fingers. It has strong local applicability and clinical popularization value. The program also provides a theoretical basis for the future development of relevant guidelines for continuing nursing health education for stroke patients.

3) For the first time, this paper comprehensively observes the effects of continuing stroke care program on patients’ knowledge level, discharge guidance compliance, quality of life, utilization of health services and nursing satisfaction. The results and methods provide valuable reference for improving the quality of in-hospital and out-of-hospital care of stroke patients.

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References


