

# The Impact of Comprehensive Nursing Care + Early Enteral Nutrition Support on the Nutritional Status of Elderly Patients with Severe Stroke

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## Abstract

**Objective:** To study the effects of comprehensive nursing care combined with early enteral nutritional support on the nutritional status of elderly patients with severe stroke. **Methods:** This study included 104 elderly patients with severe stroke admitted between September 2020 and June 2025, who were randomly assigned to a random number table. The control group (n= 52) received routine nursing care and nutritional support, while the observation group (n= 52) received comprehensive nursing care plus early enteral nutritional support. Nutritional Risk Screening 2002 (NRS 2002) scores, Stroke-Specific Quality of Life Scale (SS-QOL) scores, complication rates, and patient satisfaction were compared. **Results:** After 14 days of intervention, the SS-QOL score and patient satisfaction rate in the observation group were significantly higher than those in the control group ( $p < 0.05$ ). After 14 days of intervention, the NRS 2002 score and complication rate in the observation group were significantly lower than those in the control group ( $p < 0.05$ ). **Conclusion:** Comprehensive nursing care plus early enteral nutritional support is more effective in improving the nutritional status of elderly patients with severe stroke.

## Keywords

Comprehensive nursing care; Early enteral nutritional support intervention; Severe stroke in the elderly; Nutritional status

## Introduction

Severe stroke is a serious cerebrovascular disease with a very high incidence rate among the elderly [1]. The main signs and symptoms of this disease include increased intracranial pressure, impaired consciousness, and loss of swallowing function, which significantly reduces the quality of life of patients [2]. Due to the stress state of the body, it is easy to have a high catabolic reaction and be affected by factors such as weakened gastrointestinal motility. In the short term, nutritional intake is seriously insufficient, and even serious malnutrition problems may occur, increasing the risk of complications such as infection, pressure sores, and organ failure, which endanger the life and health of patients [3]. At present, an early enteral nutrition support strategy has been recommended for elderly patients with severe stroke, which is conducive to maintaining the intestinal mucosal barrier and reducing the risk of complications [4]. Full-process nursing intervention is a model in which nursing staff provide more comprehensive nursing services to patients throughout the process [5]. Therefore, this article studies the effect of full-process nursing + early enteral nutrition support on the nutritional status of elderly patients with severe stroke. The specific report is as follows.

## 1. Materials and Methods

### 1.1 General Information

104 elderly patients with severe stroke were admitted between September 2020 and June 2025. Patients were randomly assigned to a control group and an observation group, with 52 patients in each group. The control group consisted of patients aged 62-73 years with a disease duration of 1-5 days and a body mass index (BMI) of 21.19-26.27 kg/m<sup>2</sup>. The observation group consisted of patients aged 61-79 years with a disease duration of 1-6 days and a BMI of 21.35-26.88 kg/m<sup>2</sup>. There were no significant differences in data between the two groups (see Table 1) ( $p > 0.05$ ). The study was approved by the hospital's ethics committee.

Inclusion criteria: (1) diagnosed with severe stroke in the elderly [6]; (2) admitted to the hospital within 24 hours of onset; (3) signed informed consent form.

Exclusion criteria: (1) Other cerebrovascular diseases; (2) Comorbid severe gastrointestinal malformations, bleeding, and intestinal infarction, etc., which do not meet the requirements for enteral nutrition supporters; (3) Mental illness patients.

**Table 1. Comparison of general data between the two groups**

Group	Patient (Number of examples)	Age (age)	Gender		Body Mass Index (kg/m <sup>2</sup> )	Course of illness (d)
			Male cases (%)	Female cases (%)		
Reference group	52	64.28±1.38	30 (57.69)	22 (42.31)	23.39±1.09	2.69±0.14
Observation group	52	64.08±1.24	28 (53.85)	24 (46.15)	23.64±1.23	2.73±0.29
$\chi^2$ value/t value	-	0.777		0.155	1.096	0.895
$p$ -value	-	0.738		0.692	0.275	0.372

### 1.2 Methods

The control group received routine nursing care and routine nutritional support. (1) Routine nursing care: including observation of the patient's condition, medication administration, respiratory care, and regular turning and back patting. (2) Routine nutritional support: 48 hours after admission, if the patient's condition was stable, enteral nutrition emulsion was administered via nasogastric tube to implement enteral nutritional support intervention. The infusion method was intermittent bolus injection. During this period, attention was paid to assessing the patient's tolerance and adjusting the infusion rate and volume.

The observation group received full-process nursing care plus early enteral nutrition support intervention. (1) Full-process nursing care: a. Nutritional assessment. The Nutritional Risk Screening 2002 score was used to understand the patient's condition. Nutritional assessment should be performed when the patient is admitted and before and after surgery. b. Health education. Nursing staff patiently and proactively introduced the patient's condition, informed them of the risk of malnutrition, the high-risk factors, main clinical manifestations, and hazards of malnutrition, and explained the importance of early enteral nutrition support to encourage the patient to cooperate with the treatment. c. Positional care. During the nutritional support intervention, the head of the bed should be raised 30-45° and kept for 30 minutes after the infusion is completed to reduce the risk of aspiration and reflux. d. Tubing care. During the infusion, the number of rounds should be increased, and the infusion rate should be adjusted. Check the patency of the tubing. If there is a blockage, the infusion should be temporarily stopped, and the tubing should be flushed. Nutritional fluid therapy should be resumed after the condition returns to normal. e. Monitoring and prevention of complications. Monitor the patient's blood glucose and electrolyte levels daily, closely monitor the gastric retention, and understand whether the patient has diarrhea, abdominal distension, etc. Adjust the nutritional fluid prescription if necessary. During this period, strengthen oral care intervention to reduce the risk of respiratory infection. Monitor liver and kidney function regularly. (2) Early enteral nutrition support intervention: Within 24-48 hours of admission, if the patient's hemodynamics are stable and there are no contraindications, administer enteral nutrition emulsion through a nasogastric tube to implement enteral nutrition support intervention. The infusion method is continuous infusion via a nutrition pump. The initial rate is controlled at 20-30 ml/h, and attention should be paid to warming

during infusion. Afterwards, the amount is gradually increased according to the patient's tolerance, and the target energy is reached within 3-5 days.

### 1.3 Observation Indicators

(1) Nutritional risk screening 2002 (NRS 2002) score [7]. Total score  $\geq 3$  points: nutritional risk exists, and the higher the score, the more serious the nutritional risk. (2) Quality of life (SS-QOL) [8]. The total score is 12~60 points, and the higher the score, the higher the quality of life. (3) Complication rate. Stress ulcers, infections, constipation, etc., may occur. (4) Patient satisfaction rate. A self-made scale was used to investigate patient satisfaction. Very satisfied ( $>80$  points), relatively satisfied (50~80 points), dissatisfied ( $<50$  points).

### 1.4 Statistical Analysis

Analysis was performed using SPSS 22.0 software. Count data are expressed as % (%), with rows calculated using  $\chi^2$  Test; Quantitative data are expressed as  $(\bar{x} \pm s)$ , row...  $t$ -test.  $P < 0.05$  indicates a statistically significant difference.

## 2. Results

### 2.1 Comparison of the Two Sets of NRS 2002 Scores

After 14 days of intervention, the NRS 2002 score in the observation group was lower than that in the control group ( $p < 0.05$ ).

### 2.2 Comparison of Quality of Life between the Two Groups

After 14 days of intervention, the SS-QOL score in the observation group was higher than that in the control group ( $p < 0.05$ ).

### 2.3 Comparison of Complication Rates between the Two Groups

The incidence of complications in the observation group was lower than that in the control group ( $p < 0.05$ ).

### 2.4 Comparison of Patient Satisfaction Rates between the Two Groups

The patient satisfaction rate in the observation group was higher than that in the control group ( $p < 0.05$ ) (see Table 2).

**Table 2. Comparison of patient satisfaction rates between the two groups**

Grouping	Patient (Number of examples)	Very satisfied Example (%)	Quite satisfied Example (%)	Dissatisfaction rate (%)	Patient satisfaction rate Example (%)
Reference group	52	27 (51.92)	16 (30.77)	9 (17.31)	43 (82.69)
Observation group	52	32 (61.54)	18 (34.62)	2 (3.85)	50 (96.15)
$\chi^2$ value	-	-	-	-	4.981
$p$ -value	-	-	-	-	0.026

## 3. Discussion

Severe stroke in the elderly is a type of disease with high incidence, high disability rate, and high mortality. Due to the influence of the disease, patients' nutritional intake and absorption are impaired, which easily leads to the risk of malnutrition. If malnutrition occurs, it will further lead to a decrease in immune function, affect the repair of damaged nerves, and lead to a poor prognosis for patients. How to take effective nursing strategies to improve the nutritional status of patients is of great value. Therefore, this article studies the effect of full-process nursing + early enteral nutrition support on the nutritional status of elderly patients with severe stroke.

The results showed that the indicators were better when the whole process of nursing care and early enteral nutrition support intervention was implemented ( $p < 0.05$ ). This proves that the whole process of nursing care and early enteral nutrition support intervention is more effective in improving the nutritional status of elderly patients with

severe stroke. This is mainly because the implementation of early enteral nutrition support can make use of intestinal function as early as possible, maintain the integrity of the intestinal mucosal barrier, improve nutritional level, and reduce the risk of complications such as infection. At the same time, the whole process of nursing care strategy significantly reduces the risk of intolerance of patients in the process of nutritional support, ensures the effective achievement of target calories, thereby improving the nutritional status of patients, promoting the improvement of the condition, improving the quality of life, and making patients more satisfied.

In conclusion, comprehensive nursing care combined with early enteral nutritional support intervention is more effective in improving the nutritional status of elderly patients with severe stroke.

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