

Nursing Effects of Routine Care and Specialized Nursing Intervention on Patients with Dysphagia during Acute Stroke

Dandan Shi*

School of Clinical Medicine, Affiliated Hospital of Hebei University, Baoding 071000, Hebei, China

*Author to whom correspondence should be addressed.

Copyright: © 2025 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: *Objective:* To compare the nursing effects of routine care and specialized nursing intervention on patients with dysphagia during acute stroke. *Methods:* A total of 188 patients with acute stroke and dysphagia who received treatment at our hospital from May 2022 to December 2024 were selected as study subjects. The patients were randomly divided into a control group and an observation group, with 94 patients in each group. The control group received routine nursing intervention, while the observation group received specialized nursing intervention. The general information, swallowing function, quality of life, and nursing satisfaction were compared between the two groups. *Results:* There was no statistically significant difference in general information between the two groups ($P > 0.05$). The SAS score of the observation group after nursing was significantly lower than that of the control group ($t=19.463$, $P = 0.000 < 0.001$). After intervention, the number of patients with lung infection in the observation group was significantly lower than that in the control group ($\chi^2=7.309$, $P = 0.007 < 0.01$). The overall quality of life score of the observation group was significantly better than that of the control group after intervention ($P < 0.001$). The nursing satisfaction of the observation group was significantly higher than that of the control group ($\chi^2 = 15.865$, $P = 0.000 < 0.001$). *Conclusion:* Compared with routine care, specialized nursing intervention can effectively improve the swallowing function of patients with dysphagia during acute stroke, enhance their quality of life, and increase nursing satisfaction.

Keywords: Stroke; Routine care; Specialized nursing intervention; Dysphagia

Online publication: April 29, 2025

1. Introduction

Stroke is a highly prevalent and disabling neurological disease. According to WHO data, a large number of new stroke patients are reported every year, and these patients often suffer from various severe complications, especially swallowing dysfunction. Due to impaired swallowing function, patients' daily diet is greatly disturbed, further limiting their nutritional intake and affecting the recovery of bodily functions^[1]. Additionally, decreased swallowing ability can lead to food and saliva entering the airways, which can easily cause complications such as lung infections.

Once lung infection occurs, it can worsen the patient's condition and potentially endanger their life ^[2].

In clinical nursing practice, improving the nursing effects for patients with dysphagia during acute stroke has been a key focus and challenging issue for healthcare professionals. Routine care provides basic nursing services to patients to some extent, but its limitations become apparent when facing the complex and highly individualized problem of dysphagia. In recent years, specialized nursing intervention, as an emerging nursing model, has gradually gained attention. It emphasizes multidisciplinary collaboration, precise assessment, and personalized intervention, which theoretically promises to bring better nursing effects to patients with dysphagia during acute stroke. However, current comparative studies on the nursing effects of routine care and specialized nursing intervention for these patients are still inadequate. Therefore, conducting this study to deeply analyze and compare the effects of the two nursing models has important practical significance and clinical value for optimizing clinical nursing plans and improving patient care quality.

2. Materials and methods

2.1. General information

In this study, a total of 188 patients with acute stroke and dysphagia who received treatment at our hospital from May 2022 to December 2024 were selected as the research subjects. The patients were randomly divided into a control group and an observation group, with 94 patients in each group, using a random number table method.

Inclusion criteria: (1) Meet the diagnostic criteria for stroke revised by the Fourth National Cerebrovascular Disease Academic Conference, and confirmed by cranial CT or MRI; (2) The onset time is within 72 hours; (3) Presence of dysphagia; (4) The patient or family members signed an informed consent form and were willing to cooperate with the study.

Exclusion criteria: (1) Severe heart, liver, kidney, and other important organ failure; (2) Presence of consciousness or cognitive impairment that prevents cooperation with evaluation and care; (3) Previous history of head and neck radiotherapy or throat surgery affecting swallowing function; (4) Presence of mental illness or language communication disorders that prevent accurate expression of personal feelings.

2.2. Methods

The control group received routine nursing intervention, including close monitoring of patients' vital signs, observation of disease progression, basic disease care according to medical advice (such as controlling blood pressure, blood sugar, oral care, assisting patients to maintain a comfortable position), verbal education on nursing knowledge, and guidance on simple swallowing training.

The observation group received specialized nursing intervention.

- (1) Establishment of a specialized nursing team: The team consists of neurologists, rehabilitation therapists, nutritionists, and responsible nurses. The neurologist is responsible for accurately diagnosing the patient's condition and developing a scientific treatment plan. The rehabilitation therapist uses professional assessment tools to comprehensively evaluate the patient's swallowing function ^[1]. The nutritionist tailors personalized dietary plans based on the patient's swallowing status and nutritional needs ^[2]. The responsible nurse is in charge of implementing specific nursing measures, closely observing changes in the patient's condition, and providing timely feedback.
- (2) Cause analysis: The team comprehensively reviews the patient's medical records, communicates deeply with the patient and their family members, and analyzes the causes of swallowing disorders from multiple dimensions based on various examination results. In terms of the nervous system, the team

assesses the degree and location of damage to the swallowing nerves caused by brain lesions. Regarding muscle function, they evaluate the strength and coordination of the muscles in the mouth and throat. Psychologically, they focus on whether patients experience anxiety, depression, or other negative emotions that affect swallowing function due to illness. Additionally, they consider the potential impact of factors such as the patient's past medical history and age on swallowing.

- (3) Design of nursing plan: A comprehensive training plan for patients with swallowing difficulties may incorporate several targeted interventions. Oral sensory training involves stimulating the oral mucosa with an ice-cold cotton swab to enhance sensory perception and responsiveness ^[3]. To improve muscle function, swallowing muscle strength training focuses on exercises that target the tongue and chewing muscles, helping to build strength and control. Additionally, swallowing coordination training is employed to enhance the timing and rhythm of the swallowing process, typically by alternating between dry (empty) swallows and swallowing with food ^[4]. It is essential to strengthen the patient's dietary care by adjusting food texture based on swallowing function, following the principle of small and frequent meals to ensure balanced nutrition. The nurse in charge should actively communicate with the patient, provide good psychological support, alleviate negative emotions, and increase the patient's confidence in recovery. Additionally, it is necessary to enhance health education for the patient and their family members, educating them on disease-related knowledge and nursing essentials to improve their self-care abilities.

2.3. Observation indicators

The general conditions of the two groups were recorded. The Standard Swallowing Assessment (SSA) scale was used to evaluate patients' swallowing function. The World Health Organization Quality of Life Questionnaire-26 (WHOQOL-26) was used to assess the quality of life before and after nursing in both groups. A self-made satisfaction survey questionnaire was used to investigate nursing satisfaction in both groups.

2.4. Statistical methods

Data analysis was performed using SPSS 24.0 statistical software. Measurement data were expressed as mean \pm standard deviation ($\bar{x} \pm s$), and comparisons between groups were made using t-tests and χ^2 tests. A P -value < 0.05 was considered statistically significant.

3. Results

3.1. Comparison of general information between the two groups

There was no statistically significant difference in the general information between the two groups ($P > 0.05$).

Table 1. Comparison of general information between the two groups

Group	Number of cases (<i>n</i>)	Gender (<i>n</i>)		Age ($\pm s$, years old)
		Male	Female	
Control group	94	49	45	68.17 \pm 1.32
Observation group	94	48	46	68.21 \pm 1.28
χ^2/t value		0.021		0.211
P value		0.884		0.833

3.2. Comparison of swallowing function scores before and after nursing between the two groups

The SAS score of the observation group after nursing was significantly lower than that of the control group ($t=19.463$, $P=0.000 < 0.001$) (see Table 2).

Table 2. Comparison of swallowing function scores before and after nursing between the two groups

Group	SAS Score	
	Before Nursing	After Nursing
Control group($n=94$)	35.89 ± 3.61	32.25 ± 3.26
Observation group($n=94$)	35.79 ± 3.65	23.15 ± 3.15
t	0.189	19.463
P	0.850	0.000

3.3. Comparison of the incidence of pulmonary infection between the two groups

After intervention, the number of patients with pulmonary infection in the observation group was significantly lower than that in the control group ($\chi^2=7.309$, $P=0.007 < 0.01$) (see Table 3).

Table 3. Comparison of pulmonary infection between the two groups of patients

Group	Number of cases of lung infection ($n/\%$)
Control group ($n=94$)	20(21.28%)
Observation group ($n=94$)	7(7.45%)
χ^2	7.309
P	0.007

3.4. Comparison of quality of life before and after nursing between the two groups

After intervention, the overall quality of life scores of the observation group were significantly better than those of the control group ($P < 0.001$) (see Table 4).

Table 4. Comparison of quality of life before and after nursing between the two groups

Group		WHOQOL-26 Score				
		Physical Health	Psychological Health	Social Relationships	Environmental Factors	Total Score
Control group ($n=94$)	Before Intervention	19.62 ± 2.88	15.58 ± 3.48	9.62 ± 2.11	19.75 ± 3.29	64.46 ± 3.66
	After Intervention	20.05 ± 3.02	16.58 ± 3.61	9.96 ± 2.17	20.69 ± 3.25	64.86 ± 3.65
	T	0.999	1.934	1.089	1.971	0.750
	P	0.319	0.055	0.278	0.050	0.454
Observation group ($n=94$)	Before Intervention	18.25 ± 2.82	15.24 ± 3.55	9.56 ± 2.13	19.25 ± 3.46	61.39 ± 3.59
	After Intervention	26.51 ± 3.68	20.55 ± 3.59	14.35 ± 2.46	25.88 ± 3.47	85.14 ± 3.64
	t	17.273	10.197	14.272	13.118	45.040
	P	0.000	0.000	0.000	0.000	0.000

3.5. Comparison of nursing satisfaction between the two groups

The nursing satisfaction of the observation group was significantly higher than that of the control group ($\chi^2=15.865$, $P=0.000 < 0.001$), as shown in **Table 5**.

Table 5. Comparison of nursing satisfaction between the two groups

Group	Nursing Satisfaction			
	Very Satisfied	Generally Satisfied	Dissatisfied	Overall Satisfaction Rate
Control group (n=94)	30(31.91%)	39(41.49%)	25(26.6%)	69(73.4%)
Observation group (n=94)	74(78.72%)	15(15.96%)	5(5.32%)	89(94.68%)
χ^2				15.865
P				0.000

4. Discussion

The results of this study indicate that nursing case intervention has significant advantages in improving swallowing function, quality of life, and nursing satisfaction for patients with swallowing disorders in acute stroke.

In terms of improving swallowing ability, targeted rehabilitation training is provided by rehabilitation therapists in the nursing case team. Oral sensory training stimulates the receptors of the oral mucosa, improving oral sensitivity and enhancing swallowing reflexes. Swallowing muscle training for the tongue and chewing muscles strengthens related muscles and improves swallowing coordination. Swallowing coordination training helps patients gradually learn the correct swallowing method through swallowing and dry swallowing, thereby reducing the risk of aspiration^[5,6,7]. Traditional therapies, due to their lack of systematization and individualization, often struggle to meet patients' rehabilitation needs.

Patients with swallowing disorders in acute stroke face a high risk of lung infections due to aspiration, negatively impacting their prognosis^[8]. Nursing case intervention assesses patients' aspiration risks and eating methods, allowing for timely adjustments such as improved eating posture and appropriate utensils to reduce bacterial growth in the mouth and minimize aspiration. Traditional routine nursing methods for aspiration prevention are often general and lack specificity. The results of this study show that the incidence of lung infections in patients receiving nursing case intervention is significantly lower than those receiving routine care. This is because nursing case intervention constructs a rigorous complication prevention and control system from multiple dimensions, forming a closed-loop management from risk identification to intervention implementation, effectively reducing the occurrence of aspiration and related complications, ensuring patient respiratory safety, and enhancing nursing safety.

Quality of life is key to evaluating nursing efficacy. Patients with swallowing disorders in acute stroke often experience psychological issues like anxiety and depression due to their physical limitations and concerns about their prognosis, significantly reducing their quality of life. Nursing case intervention provides comprehensive nursing support. Individualized dietary plans from nutritionists adjust food texture and nutritional combinations based on patients' swallowing ability and nutritional status, ensuring adequate nutrition and promoting rapid recovery^[9]. Psychological nursing focuses on patients' psychological state, providing effective communication and support to alleviate negative emotions caused by illness and swallowing disorders, boosting patients' confidence and enthusiasm for recovery, and enhancing their psychological quality of life^[10]. Health education for patients

and their families improves self-care abilities, enabling better care and support in home and social environments and enhancing quality of life in social and environmental domains. Routine nursing interventions are relatively weak in these areas, making nursing case intervention more effective in improving patients' quality of life.

In terms of nursing satisfaction, nursing case intervention provides comprehensive and personalized nursing services, fully considering patients' needs at every step and enhancing their perception of quality nursing care, thereby increasing nursing satisfaction. While routine nursing can meet basic patient needs, its lack of personalization and refinement leads to relatively low nursing satisfaction.

5. Conclusion

In summary, compared to routine nursing, nursing case intervention effectively improves swallowing function, quality of life, and nursing satisfaction for patients with swallowing disorders in acute stroke. Future efforts should deepen multidisciplinary collaboration, such as regular case discussions among rehabilitation medicine, nutrition, and psychology experts to jointly develop rehabilitation plans. Exploring advanced rehabilitation training techniques and equipment, like using virtual reality technology to create an immersive training environment, can enhance training fun and effectiveness. Conducting more clinical research to optimize nursing case intervention processes and content will provide stronger evidence support for clinical nursing, better meet patient care needs, and bring hope for their recovery.

Disclosure statement

The author declares no conflict of interest.

References

- [1] Ma H, 2022, Observation on the Effect of Early Rehabilitation Nursing on Patients with Swallowing Disorders After Acute Stroke. *Guide of China Medicine*, 20(33): 175–177.
- [2] Zhang J, Zhang X, 2024, Rehabilitation Nursing for Patients with Swallowing Disorders After Acute Stroke. *Journal of Shandong Medical College*, 46(6): 59–60.
- [3] Li C, Wan Q, Zhang X, et al., 2024, Observation on the Effect of Bing'an Tongluo Method on Swallowing Disorders in Patients with Acute Ischemic Stroke. *Inner Mongolia Journal of Traditional Chinese Medicine*, 43(11): 111–115.
- [4] Chen Y, Du J, Huang X, et al., 2022, Observation on the Rehabilitation Effect of Integrated Traditional Chinese and Western Medicine Treatment for Swallowing Disorders After Acute Stroke. *China Continuing Medical Education*, 14(19): 191–195.
- [5] Ma L, Gao W, Wang Y, 2023, Application of Rehabilitation Nursing in Patients with Swallowing Disorders Caused by Acute Stroke. *Chinese Health Care & Nutrition*, 41(12): 128–131.
- [6] Liu Y, Sun J, Shao L, 2021, Study on the Effect of Early Rehabilitation Nursing on Swallowing Dysfunction and Limb Function Recovery in Patients with Acute Stroke. *China Practical Medicine*, 16(36): 208–210.
- [7] Zhang W, 2021, Application of Early Rehabilitation Nursing in Patients with Swallowing Disorders After Acute Stroke. *Guide of China Medicine*, 19(18): 199–200.
- [8] Zhang S, 2024, Application Effect of Nursing Case in Screening Swallowing Disorders in Patients with Acute Stroke. *Smart Healthcare*, 10(28): 133–136.

- [9] Zhou Y, Liu H, 2023, Application Effect of Checklist-Based Stroke Swallowing Disorder Evaluation Training Combined with Stepped Segmented Dietary Guidance in Patients with Acute Stroke. *Chinese Community Doctors*, 40(34): 103–105.
- [10] Chen X, Wu S, Shen L, 2022, Observation on the Effect of Early Rehabilitation Nursing for Patients with Swallowing Disorders After Acute Stroke. *China Health Standard Management*, 13(4): 172–176.

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.