Application of Early Nursing Intervention with Integrated Traditional Chinese and Western Medicine in Neurosurgical Inpatients with Constipation

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Abstract

Objective: To investigate the application of early integrated traditional Chinese and Western medicine nursing intervention in hospitalized neurosurgical patients with constipation. Methods: A total of 160 neurosurgical patients with constipation from the Neurosurgery Department of Jianli City People' s Hospital between January 2025 and July 2025 were selected as research subjects. Using simple randomization, they were divided into a control group (n=80) and an intervention group (n=80). The control group received routine nursing measures for craniocerebral injury in neurosurgery, while the intervention group received targeted integrated traditional Chinese and Western nursing interventions for hospitalized constipation patients with craniocerebral injury based on routine care. The incidence of constipation after nursing intervention, quality of life scores before and after nursing intervention, and nursing satisfaction were analyzed between the two groups. Results: The incidence of constipation after nursing intervention in the intervention group was lower than that in the control group ($P<0.05$). The quality of life scores after nursing intervention improved in both groups compared with before nursing intervention, and were higher in the intervention group than in the control group ($P<0.05$). The nursing satisfaction in the intervention group was higher than that in the control group ($P<0.05$). Conclusion: The application of integrated traditional Chinese and Western medicine nursing intervention for hospitalized constipation patients in neurosurgery can reduce the incidence of constipation, improve the quality of life of constipation patients, and enhance nursing satisfaction among inpatients.

Full Text

Application of Early Integrated Chinese and Western Nursing Intervention in Constipated Neurosurgery Inpatients

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Abstract

Objective: To investigate the application of early integrated Chinese and Western nursing intervention in constipated neurosurgery inpatients. **Methods:** A total of 160 constipation cases admitted to the neurosurgery department of Jianli People' s Hospital between January 2025 and July 2025 were enrolled. Using simple randomization, patients were assigned to a control group (n=80) and an intervention group (n=80). The control group received routine nursing care for craniocerebral injury, while the intervention group received targeted integrated Chinese and Western nursing measures for constipation. Constipation incidence, quality of life scores before and after nursing, and nursing satisfaction were compared between the two groups. **Results:** Post-intervention constipation incidence was significantly lower in the intervention group than in the control group ($P<0.05$). Quality of life scores improved in both groups after nursing, with the intervention group showing significantly higher scores than the control group ($P<0.05$). Nursing satisfaction was also significantly higher in the intervention group ($P<0.05$). **Conclusion:** Integrated Chinese and Western nursing intervention for constipated neurosurgery inpatients can effectively reduce constipation incidence, improve quality of life, and enhance nursing satisfaction.

Keywords: Integrated Chinese and Western medicine; Neurosurgery; Constipation

Introduction

Constipation represents a significant complication in neurosurgical patients, arising from multiple interacting factors including brain-gut axis dysfunction caused by the underlying disease, inhibition of intestinal water absorption by dehydrating medications, prolonged fasting or insufficient nutritional intake, and reduced gastrointestinal motility from extended bed rest [1-2]. As a common digestive system complication of craniocerebral injury, constipation manifests primarily as difficult defecation, reduced bowel movement frequency, and hard, dry stools [3]. Reported incidence rates range from 30% to 60% among patients with neurological disorders [4]. When patients experience difficulty or inability to defecate independently, straining during bowel movements can elevate intracranial pressure, exacerbate craniocerebral injury symptoms, and potentially become life-threatening [5]. Elderly patients face particularly pronounced risks, as constipation can disrupt glucose and lipid metabolism, accelerate atherosclerosis,

and even precipitate sudden cardiac death [6]. Our department has achieved favorable outcomes using early integrated Chinese and Western nursing interventions for constipated neurosurgery inpatients, which we report herein.

Methods

1.1 General Information

This study enrolled 160 constipated inpatients from the neurosurgery department of Jianli People' s Hospital between January and July 2025, comprising 83 males and 77 females aged 38 to 87 years. Patients were randomly divided into a control group and an intervention group (80 cases each). The two groups showed no statistically significant differences in baseline characteristics including gender, age, or constipation duration ($P>0.05$), ensuring comparability.

1.2 Inclusion and Exclusion Criteria

Inclusion criteria: (1) Neurosurgery inpatients with constipation, defined as altered normal bowel patterns with reduced frequency, hard/dry stools, and difficult passage [3]. Specifically, patients who had no bowel movement for three consecutive days or fewer than three times per week were enrolled. (2) Hospitalization duration >3 days.

Exclusion criteria: Patients with aphasia, tracheostomy, tracheal intubation, eye diseases, or hemiplegic coma upon admission; patients with organic bowel diseases.

1.3 Intervention Methods

The control group received routine nursing care for craniocerebral injury, including close vital sign monitoring, targeted dietary care, position management, and airway maintenance, with a one-month intervention period. The intervention group received integrated Chinese and Western nursing measures for constipation based on the control group' s care. A quality management team was established, led by the head nurse and comprising two N3-level charge nurses and two N2-level nurses (four members total). The team collected data on constipation incidence among eligible patients, then searched literature databases (CNKI, VIP, Wanfang, SCI) using keywords such as "constipation." After evaluating the utility and reliability of collected data, the team analyzed and formulated specific questions regarding effective constipation prevention and treatment, subsequently developing novel nursing interventions to drive continuous quality improvement.

(1) Risk Assessment: Responsible nurses evaluated newly admitted patients (including those transferred from ICU). The team introduced three assessment tools based on literature review: The Constipation Risk Assessment Tool [7] includes eight indicators: age, consciousness status, constipating medication use, limb mobility, dietary structure, bed rest duration, constipation history, and

prevention knowledge mastery (score range 0-32; $ $17 indicates high risk, with higher scores indicating greater risk). The Constipation Assessment Scale (CAS) [8] contains eight items using a 3-point Likert scale (0-2 points), with higher total scores indicating more severe symptoms, primarily assessing constipation over the past seven days. The Bristol Stool Form Scale [9] classifies stool into seven types: Types 1-2 indicate constipation, Types 3-4 represent ideal forms (Type 4 being easiest to pass), and Types 5-7 indicate diarrhea (Type 6 is normal for newborns). Implementation process: (a) Admission constipation risk assessment was integrated into routine departmental practice; (b) The head nurse weekly reviewed assessment records and provided feedback on identified issues; (c) Morning meetings emphasized assessment importance to enhance nurses' implementation enthusiasm.

(2) Health Education: Using the constipation risk assessment tool, high-risk patients received the "Neurosurgery Inpatient Constipation Dietary Education Sheet" and instruction on increasing water intake and abdominal massage. Personal files for high-risk constipation patients were created in the computer system, with responsible nurses daily reviewing bowel movement records and educating caregivers about constipation hazards and prevention methods twice daily (morning and evening). The department organized quarterly nurse training and assessments on target constipation incidence rates in craniocerebral injury patients and complications of constipation. The constipation care quality improvement team monthly tracked the number of managed patients and constipation cases, calculated incidence rates, conducted individualized cause analysis for constipated patients, formulated corresponding countermeasures, and supervised implementation.

(3) Dietary Care: Within 24-48 hours of admission, appropriate enteral nutrition routes and formulas were selected based on patient condition. For conscious patients, instruction was provided to consume high-fiber fresh vegetables and fruits such as corn, oats, mushrooms, and sweet potatoes, with a recommendation of one cup of yogurt daily to regulate intestinal flora. Patients were advised to drink approximately 1,500 ml of warm water daily, particularly 200 ml on an empty stomach each morning to stimulate intestinal motility and induce defecation reflex. If early gastrointestinal nutrition was contraindicated due to disease status, guidelines recommended providing 25 kcal/(kg·d) calories with a carbohydrate-to-fat ratio of 1:1 and a calorie-to-nitrogen ratio of 1:100, selecting total parenteral nutrition (TPN) for intravenous nutrition.

(4) Early Bed Exercise Care: Craniocerebral disease causes motor dysfunction, reduced activity, decreased intestinal peristalsis, discomfort with bedpans, and reduced abdominal pressure, all contributing to decreased defecation frequency. For patients without contraindications, elevating the head of the bed $ 30° increased abdominal pressure; for those with cervical or thoracic fractures, the head elevation was appropriately reduced per physician orders to achieve similar effects. To promote intestinal motility, passive straight-leg raises, passive double-leg flexion, and warm water foot baths were employed. Specific

procedures: Conducted one hour after dinner for 20 minutes, with patients in semi-recumbent position. Given that the gastrocolic reflex is most pronounced after breakfast, defecation stimulation training was performed 30 minutes after breakfast for 10-15 minutes. Abdominal massage: Patients lay supine with knees flexed and abdomen relaxed. The operator stood on the patient' s right side, overlapped hands (right over left) on the right lower abdomen, and applied pressure using the palm base and thenar eminence along the ascending colon → transverse colon → descending colon → sigmoid colon direction. Pressure gradually increased to depress the abdomen approximately 1 cm until intestinal peristalsis signs appeared.

(5) Medication Care: Commonly used medications in critically ill neurosurgery patients such as antiepileptics, sedatives (e.g., valproate, dexmedetomidine), and hemostatics inhibit intestinal motility; doses could be reduced or medications changed per physician orders. Responsible nurses daily assessed enteral nutrition intake, defecation, and bowel sounds in patients with constipation >3 days, and administered medications per physician orders: rectal suppositories (glycerin), oral agents (senna, hemp seed pills, bisacodyl, probiotics), and osmotic agents (oral mannitol). Electrolytes and hormones were regularly monitored after medication to prevent drug-induced internal environment disturbances causing consciousness disorders. Elderly patients with weaker constitutions required enhanced vital sign monitoring after defecation to prevent systemic internal environment disturbances from large-volume bowel movements. Oral laxatives easily cause incontinence-associated dermatitis [10]; stool color, consistency, and volume required close attention for early intervention to reduce incidence.

(6) Traditional Chinese Medicine Acupoint Plastering: For patients with no bowel movement for three consecutive days or <3 times per week, rhubarb powder mixed with honey was prepared into a paste and applied externally to the Shenque acupoint. The Hegu acupoint belongs to the Large Intestine Meridian of Hand-Yangming, treating abdominal pain, constipation, and other symptoms. Simultaneous Hegu massage can unblock meridians and improve intestinal function [11].

(7) Segmented Glycerin Suppository with Position Management: Literature reports indicate glycerin suppository rectal insertion is ineffective in approximately half of patients; however, Mao et al. [12] demonstrated that segmented glycerin suppository administration combined with position management achieves better enema effects. Our method (when no contraindications existed) was as follows: **Segmented administration:** Two glycerin suppositories (20 ml total) were drawn into a 50 ml syringe connected to a 14F suction catheter (lubricated with paraffin oil). With the patient in left lateral position, the catheter was inserted 4-5 cm into the anus and approximately 5 ml of glycerin was injected; insertion continued to 20-25 cm before injecting the remainder, followed by a small air flush. **Position management:** After administration, the buttocks were elevated 10-15 cm with a pillow under the back

to create a 30° angle with the bed, maintained for 5-10 minutes. Patients were then assisted to right lateral position with similar 30° elevation for another 5-10 minutes. Defecation was assisted whenever the urge occurred.

1.4 Observation Indicators

(1) Comparison of constipation incidence; (2) Quality of life score: assessed using the SF-36 scale [13] (eight dimensions including bodily pain and physical function, total score 800, higher scores indicating better quality of life); (3) Nursing satisfaction: assessed using a self-designed scale (very satisfied, satisfied, dissatisfied), with overall satisfaction rate = (very satisfied + satisfied cases) / total cases × 100%.

Results

2.1 Comparison of Constipation Incidence Between Groups

After nursing intervention, constipation incidence in the intervention group was significantly lower than in the control group (P<0.05). See Table 1.

2.2 Comparison of SF-36 Scores Between Groups

No statistically significant difference existed between groups in pre-intervention SF-36 scores (P>0.05). Post-intervention scores increased significantly in both groups compared with baseline (P<0.05), with the intervention group scoring significantly higher than the control group (524.16$\pm$63.83*vs*.464.71$\pm$$51.10, P<0.05). Results are shown in Table 2 .

2.3 Comparison of Nursing Satisfaction Between Groups

Nursing satisfaction in the intervention group was significantly higher than in the control group (90% vs. 75%, P<0.05). See Table 3.

Discussion

Neurosurgery inpatients exhibit significantly higher constipation incidence (30%-60%) than the general population due to brain-gut axis dysfunction, medication side effects, and activity limitations [4]. Constipation not only causes discomfort such as abdominal distension and pain but may also precipitate dangerous intracranial pressure spikes during straining, worsening the primary condition and potentially triggering cardiovascular accidents [5-6]. This study demonstrates that a structured integrated nursing protocol effectively reduces constipation incidence while improving quality of life and nursing satisfaction.

3.1 Preventive Effect of Integrated Nursing on Constipation Incidence

The intervention group's constipation incidence (31.25%) was significantly lower than the control group' s (51.25%) (P<0.05), attributable to multidimensional

strategies: **Risk prediction mechanism:** Standardized constipation risk assessment tools [7] and the CAS scale [8] enabled early identification of high-risk patients (those scoring $ $17), providing a basis for targeted interventions. **Synergistic traditional Chinese medicine techniques:** Abdominal massage mechanically enhanced intestinal motility; Shenque acupoint plastering with rhubarb and honey regulated intestinal function through medicinal penetration [11]; Hegu acupoint massage unblocked meridians to facilitate defecation reflex. **Optimized segmented enema:** Building on Mao et al.' s method [12], deep catheter insertion with segmented administration combined with position management (30° lateral positioning + elevated buttocks) significantly improved laxative efficacy, addressing the high failure rate of conventional suppository methods. **Precision medication management:** Dose optimization of constipating medications (sedatives, antiepileptics) was implemented alongside standardized laxative use with electrolyte monitoring to prevent drug-induced complications [10].

3.2 Dual Mechanisms of Quality of Life Improvement

The intervention group' s SF-36 score improvement significantly exceeded the control group' s (524.16$±63.83*vs*.464.71±$51.10, P<0.05), resulting from: relief of constipation symptoms reducing physical discomfort such as abdominal distension and pain (improved SF-36 bodily pain dimension); early bed exercises (passive leg raises, post-breakfast defecation training) enhancing self-care ability; foot baths and massage promoting physical and mental relaxation; and personalized dietary plans (high-fiber meals + probiotics) optimizing nutritional status—collectively improving physical function and social role adaptation.

3.3 Drivers of Nursing Satisfaction

Intervention group satisfaction reached 90%, significantly higher than the control group' s 75% (P<0.05), primarily due to: **Humanistic attributes of TCM techniques:** Non-invasive procedures such as acupoint plastering and massage were readily accepted by patients, reducing anxiety associated with oral medications. **Comprehensive management model:** A closed-loop management chain from admission risk assessment to individualized post-constipation countermeasures demonstrated nursing professionalism and initiative. **Family involvement mechanism:** Daily education of caregivers about constipation prevention strengthened the social support system and enhanced patient security.

3.4 Innovation and Clinical Significance

Innovation: This study is the first to integrate constipation risk assessment tools [7], Bristol stool classification [9], and TCM cathartic techniques (acupoint plastering, meridian massage) into a structured "assessment-warning-intervention-evaluation" closed-loop management process. **Clinical value:** The protocol provides a non-pharmacological intervention pathway for drug-induced

constipation in neurosurgery patients, reducing dependence on osmotic laxatives such as mannitol. **Cost-effectiveness:** TCM external therapies (e.g., herbal plastering) are simple to perform and inexpensive, making them suitable for promotion in primary hospitals.

3.5 Limitations and Future Directions

Limitations: This was a single-center study with limited sample size and did not evaluate effects on intracranial pressure or hospitalization duration. **Future directions:** Multi-center large-sample studies should explore synergistic effects of different TCM techniques (e.g., auricular point pressing, moxibustion) and conduct long-term follow-up to observe prevention of post-discharge constipation recurrence.

This study confirms that early integrated Chinese and Western nursing intervention based on risk assessment significantly reduces constipation incidence in neurosurgery inpatients and improves quality of life and nursing satisfaction through mind-body co-regulation mechanisms. We recommend incorporating structured constipation management protocols into routine neurosurgical nursing practice, particularly strengthening standardized application of TCM external therapies to shift complication prevention upstream.

References

[1] SUN Y, LIN YJ, WANG JH, et al. Risk factors for constipation in patients with acute and subacute ischemic stroke: a retrospective cohort study [J]. Journal of Clinical Neuroscience, 2022, 106: 91-95.

[2] Wang Huan, Chen Ranran, et al. Effect of early integrated Chinese and Western nursing intervention on constipation in severe neurosurgical patients [J]. Practical Clinical Journal of Integrated Traditional Chinese and Western Medicine, 2021, 21(03): 149-151. DOI:10.13638/j.issn.1671-4040.2021.03.073.

[3] Yao Juan, Xu Caimei, Zhu Qiuping, et al. Progress in integrated Chinese and Western prevention and treatment of constipation in stroke patients [J]. Chinese Journal of Integrative Nursing, 2019, 5(4): 67-70.

[4] ALIJANPOUR S, ALIMOHAMADI N, KHAFRIS, et al. Caspian nursing process: implications on new-onset constipation in admission, discharge, and follow-up of acute stroke patients [J]. Iranian Journal of Nursing and Midwifery Research, 2022, 27(6): 509-516.

[5] Chen Jintao. Clinical analysis of constipation causes and nursing in stroke patients [J]. Health Must-Read Magazine, 2020(5): 28-29.

[6] Lv Henggang, Song Yunping, Guo Shen. Hazards and prevention of constipation [J]. Journal of Preventive Medicine of Chinese People' s Liberation Army, 2019, 37(8): 198.

[7] Chen Ling, Cao Xianxuan. Analysis of constipation causes and nursing interventions to reduce incidence in bedridden neurosurgical patients [J]. Electronic Journal of Practical Clinical Nursing, 2017, 2(44): 60.

[8] WONG W K, QIN J, BRESSINGTON D, et al. Cross-cultural adaptation and psychometric validation of the constipation assessment scale among Chinese adult psychiatric patients [J]. International Journal of Environmental Research and Public Health, 2023, 20(3): 2703.

[9] BLAKE M R, RAKER J M, WHELAN K. Validity and reliability of the Bristol Stool Form Scale in healthy adults and patients with diarrhoea-predominant irritable bowel syndrome [J]. Alimentary Pharmacology & Therapeutics, 2016, 44(7): 693-703.

[10] Cen Dening, Li Weizhen. Effect of nursing intervention on constipation in elderly cerebrovascular disease patients [J]. China Chinese Medicine Information, 2010, 2(12): 8.

[11] Cui Yuxia, Zhang Jiannan, Wu Mei. Effect of acupoint plastering combined with acupoint massage on constipation and gastrointestinal function in neurosurgical patients [J]. Primary Medical Forum, 2024, 28(06): 140-142. DOI:10.19435/j.1672-1721.2024.06.044.

[12] Mao Shuai. Observation on effect of segmented glycerin suppository administration combined with position management for constipation in cerebral hemorrhage patients [J]. Chinese Journal of Coloproctology, 2024, 44(12): 62-64.

[13] Li Xiaomeng, Ren Liping, Sun Feixia, et al. Analysis of factors affecting quality of life in pneumoconiosis patients using SF-36 scale [J]. Occupation and Health, 2023, 39(23): 3169-3173. DOI:10.13329/j.cnki.zyyjk.20230817.001.

Note: Figure translations are in progress. See original paper for figures.