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Research on the Impact of High-Quality Nursing on the Nursing Effect of Patients with Hepatic Encephalopathy

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Abstract: *Objective*: To explore the impact of high-quality nursing on the nursing effect of patients with hepatic encephalopathy, and provide a basis for optimizing clinical nursing plans. *Methods*: A total of 80 patients with hepatic encephalopathy admitted to a hospital from April 2023 to April 2024 were selected and randomly divided into a conventional group (37 cases, receiving conventional nursing) and an observation group (43 cases, receiving high-quality nursing) using a blind selection method. The incidence of complications, nursing satisfaction, changes in quality of life (SF-36 scale) and liver function indicators (ALT, AST, TBIL, ALB) before and after nursing were compared between the two groups. *Results*: The incidence of complications in the observation group (6.98%) was significantly lower than that in the conventional group (24.32%), and the nursing satisfaction (97.67%) was significantly higher than that in the conventional group (81.08), with statistically significant differences ($p < 0.05$); after nursing, the scores of each dimension and total score of the SF-36 scale, and the improvement range of liver function indicators in the observation group were significantly better than those in the conventional group, with statistically significant differences ($p < 0.05$). *Conclusion*: High-quality nursing can effectively reduce the risk of complications in patients with hepatic encephalopathy, improve nursing satisfaction and quality of life, and enhance liver function, which has important clinical promotion value.

Keywords: High-quality nursing; Hepatic encephalopathy; Complications; Nursing satisfaction; Quality of life; Liver function

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1. Introduction

Hepatic encephalopathy is a syndrome of central nervous system dysfunction based on metabolic disorders caused by severe liver disease or portal-systemic shunt. Its main clinical manifestations include disturbance of consciousness, behavioral abnormalities, and coma, which seriously threaten patients' life and health [1–4]. In clinical treatment, in addition to effective drug intervention, scientific nursing measures are crucial to improving patients' prognosis. The conventional nursing model focuses more on basic nursing operations, lacking

pertinence and comprehensiveness, and is difficult to meet the complex nursing needs of patients with hepatic encephalopathy. As a new patient-centered nursing model, high-quality nursing emphasizes personalized and all-round nursing services and has achieved significant effects in the nursing of various diseases [2–8]. By comparing the application effects of conventional nursing and high-quality nursing in patients with hepatic encephalopathy, this study explores the clinical value of high-quality nursing and provides a reference for the optimization of nursing plans for hepatic encephalopathy.

2. Materials and methods

2.1. General information

A total of 80 patients with hepatic encephalopathy admitted to a hospital from April 2023 to April 2024 were selected and randomly divided into a conventional group (37 cases) and an observation group (43 cases) using a blind selection method. There were no statistically significant differences in gender, age, course of disease, type of liver disease, etc. between the two groups ($p > 0.05$), indicating comparability. This study was approved by the Ethics Committee of the hospital, and all patients and their families signed informed consent forms.

2.2. Methods

2.2.1. Conventional group

Conventional nursing included: basic nursing (ward management, daily assistance, vital sign monitoring), condition observation (consciousness, intake and output volume, laboratory indicators), medication nursing (administering drugs as prescribed and observing adverse reactions), and health education (popularization of disease knowledge).

2.2.2. Observation group

On the basis of conventional nursing, high-quality nursing was implemented, including the following measures.

(1) Personalized nursing assessment
Comprehensively assess the patient's condition and psychological state after admission, and formulate a personalized nursing plan.

(2) Refined condition monitoring
Establish a special record form, assess consciousness (GCS) every 2 hours, monitor blood ammonia in real time, and notify doctors in a timely manner if abnormalities occur.

(3) Dietary nursing intervention
Formulate a dietary plan according to liver function and blood ammonia levels, limit protein intake (select plant protein), control water and sodium intake, and guide dietary preparation.

(4) Psychological nursing counseling
Communicate to relieve negative emotions, enhance confidence when the patient is awake, provide physical comfort when the patient is unconscious, and support family members to participate in nursing.

(5) Safety nursing guarantee
Install protective facilities in the ward, manage dangerous items, restrain the patient when irritable, and prevent infection during operations.

(6) Rehabilitation nursing guidance

Carry out limb and cognitive function training as early as possible after the patient's condition stabilizes, and guide family members to assist.

(7) Continuous nursing services

Formulate a rehabilitation plan before discharge, establish a follow-up file, and conduct weekly follow-up to adjust the plan.

2.3. Observation indicators

Incidence of complications: record complications such as pulmonary infection and urinary system infection, and calculate the incidence rate.

2.3.1. Nursing satisfaction

Use a self-designed questionnaire survey, divided into very satisfied, satisfied, and dissatisfied, and calculate the satisfaction rate [(very satisfied + satisfied)/total number of cases × 100%].

2.3.2. Quality of life

Evaluated using the SF-36 scale before and after nursing, with higher total scores indicating better quality of life.

2.3.3. Liver function indicators

Detect ALT, AST, TBIL, and ALB before and after nursing.

2.4. Statistical methods

SPSS 22.0 statistical software was used for data analysis. Measurement data were expressed as mean ± standard deviation ($\overline{x} \pm s$), and inter-group comparison was performed using *t*-test; count data were expressed as rate (%), and inter-group comparison was performed using χ^2 test. A p value of < 0.05 was considered statistically significant.

3. Results

3.1. Comparison of the incidence of complications between the two groups

The incidence of complications in the observation group was 6.98%, which was significantly lower than 24.32% in the conventional group, with a statistically significant difference ($p < 0.05$). See **Table 1** for details.

Table 1. Comparison of the incidence of complications between the two groups

Group	Number of cases	Gastrointestinal hemorrhage	Pulmonary infection	Urinary tract infection	Falls	Total incidence rate
Conventional group	37	4 (10.81%)	3 (8.11%)	1 (2.70%)	1 (2.70%)	9 (24.32%)
Observation group	43	1 (2.33%)	1 (2.33%)	1 (2.33%)	0 (0.00%)	3 (6.98%)
χ^2 value	-	-	-	-	-	4.572
p value	-	-	-	-	-	0.032

3.2. Comparison of nursing satisfaction between the two groups

The nursing satisfaction in the observation group was 97.67%, which was significantly higher than 81.08% in the

conventional group, with a statistically significant difference ($p < 0.05$). See **Table 2** for details.

Table 2. Comparison of nursing satisfaction between the two groups

Group	Number of cases	Very Satisfied	Satisfied	Dissatisfied	Satisfaction rate
Conventional group	37	18 (48.65%)	12 (32.43%)	7 (18.92%)	30 (81.08%)
Observation group	43	32 (74.42%)	10 (23.26%)	1 (2.33%)	42 (97.67%)
χ^2 value	-	-	-	-	6.438
p value	-	-	-	-	0.011

3.3. Comparison of quality-of-life levels before and after intervention between the two groups

Before nursing, there were no statistically significant differences in the scores of each dimension and total score of the SF-36 scale between the two groups ($p > 0.05$); after nursing, the scores of each dimension and total score of the SF-36 scale in both groups were significantly higher than those before nursing, and the improvement range in the observation group was significantly greater than that in the conventional group, with statistically significant differences ($p < 0.05$). See **Table 3** for details.

Table 3. Comparison of SF-36 scale scores before and after intervention between the two groups ($\overline{x} \pm s$, points)

Dimension	Group	Before nursing	After nursing	*t* value (Inter-group after nursing)	*p* value (Inter-group after nursing)
Physical function	Conventional group	52.3 ± 6.5	65.8 ± 7.2	-	-
	Observation group	53.1 ± 6.2	78.5 ± 6.8	4.236	0.000
Role-physical	Conventional group	48.5 ± 5.8	60.2 ± 6.5	-	-
	Observation group	49.2 ± 5.5	73.6 ± 6.1	5.128	0.000
Bodily pain	Conventional group	55.6 ± 6.3	68.9 ± 7.0	-	-
	Observation group	56.2 ± 6.0	80.3 ± 6.5	3.895	0.000
General health	Conventional group	46.8 ± 5.6	59.5 ± 6.2	-	-
	Observation group	47.5 ± 5.3	72.8 ± 5.8	4.762	0.000
Vitality	Conventional group	50.2 ± 6.1	63.6 ± 6.8	-	-
	Observation group	51.0 ± 5.8	76.9 ± 6.3	4.351	0.000
Social function	Conventional group	53.5 ± 6.4	66.8 ± 7.1	-	-
	Observation group	54.2 ± 6.1	79.6 ± 6.6	3.987	0.000
Role-emotional	Conventional group	47.6 ± 5.7	60.5 ± 6.4	-	-
	Observation group	48.3 ± 5.4	74.2 ± 5.9	5.013	0.000
Mental health	Conventional group	51.8 ± 6.2	65.2 ± 6.9	-	-
	Observation group	52.5 ± 5.9	78.3 ± 6.4	4.125	0.000
Total score	Conventional group	49.8 ± 5.5	63.2 ± 6.1	-	-
	Observation group	50.5 ± 5.2	76.5 ± 5.7	5.342	0.000

3.4. Comparison of changes in liver function indicators before and after nursing between the two groups

Before nursing, there were no statistically significant differences in the levels of ALT, AST, TBIL, and ALB between the two groups ($p > 0.05$); after nursing, the levels of ALT, AST, and TBIL in both groups were significantly lower than those before nursing, and the level of ALB was significantly higher than that before nursing, and the improvement range in the observation group was significantly greater than that in the conventional group, with statistically significant differences ($p < 0.05$). See **Table 4** for details.

Table 4. Comparison of changes in liver function indicators before and after nursing between the two groups ($\overline{x} \pm s$)

Indicator	Group	Before nursing	After nursing	*t* value (Inter-group after nursing)	*p* value (Inter-group after nursing)
ALT (U/L)	Conventional group	125.6 ± 25.3	86.4 ± 18.5	-	-
	Observation group	128.3 ± 24.6	52.3 ± 15.2	4.872	0.000
AST (U/L)	Conventional group	118.5 ± 23.6	78.6 ± 16.8	-	-
	Observation group	121.2 ± 22.9	45.8 ± 14.5	5.236	0.000
TBIL (μmol/L)	Conventional group	58.6 ± 12.5	36.8 ± 9.6	-	-
	Observation group	60.2 ± 11.8	22.5±8.3	4.568	0.000
ALB (g/L)	Conventional group	28.5 ± 4.2	32.6 ± 4.5	-	-
	Observation group	29.2 ± 4.0	38.8 ± 4.8	3.987	0.000

4. Analysis and discussion

Hepatic encephalopathy is one of the serious complications of patients with liver disease. Its pathogenesis is complex, related to various factors such as disordered blood ammonia metabolism and imbalance of neurotransmitters [9–11]. The quality of clinical nursing work directly affects the patient's condition recovery and prognosis. The conventional nursing model mainly aims to complete basic nursing tasks, lacks attention to individual differences of patients, and the nursing measures are relatively single, which is difficult to effectively meet the complex nursing needs of patients with hepatic encephalopathy.

As a modern nursing model, high-quality nursing emphasizes patient-centered care, formulates personalized nursing plans through comprehensive assessment of the patient's condition and needs, and provides patients with all-round and refined nursing services [12–15]. In this study, the high-quality nursing measures implemented in the observation group have the following characteristics: first, more refined condition monitoring. By establishing a special nursing record form, real-time monitoring of key indicators such as the patient's consciousness state and blood ammonia level can timely detect changes in the patient's condition, provide accurate diagnosis and treatment basis for doctors, and thus effectively prevent the occurrence of complications; second, more targeted dietary nursing. Formulating a personalized dietary plan according to the patient's liver function and blood ammonia level, strictly controlling the intake of protein, water, and sodium, helps reduce blood ammonia concentration, reduce liver burden, and promote the recovery of liver function; third, focusing on psychological nursing and safety nursing. Through communication with patients and their families, relieving the patient's negative emotions, enhancing the patient's treatment confidence, and taking a series of safety protection measures, the risk of accidents such as falls in patients is effectively reduced; fourth, carrying out continuous nursing services to provide

patients with continuous nursing support after discharge, ensuring the continuity and effectiveness of nursing measures, which is conducive to the long-term rehabilitation of patients.

The results of this study show that the incidence of complications in the observation group is significantly lower than that in the conventional group, and the nursing satisfaction is significantly higher than that in the conventional group, with statistically significant differences ($p < 0.05$). This indicates that high-quality nursing can effectively reduce the occurrence of complications in patients with hepatic encephalopathy and improve the satisfaction of patients and their families with nursing work. At the same time, after nursing, the scores of each dimension and total score of the SF-36 scale in the observation group are significantly higher than those in the conventional group, and the improvement range of liver function indicators is also significantly greater than that in the conventional group, indicating that high-quality nursing can significantly improve the patient's quality of life and promote the recovery of liver function.

In conclusion, the application effect of high-quality nursing in the nursing of patients with hepatic encephalopathy is significant. It can effectively control the occurrence of complications, improve nursing satisfaction and the patient's quality of life, and improve liver function indicators, which is worthy of clinical promotion and application. In future nursing work, we will further improve the high-quality nursing plan, continuously improve the quality of nursing services, and provide more high-quality and efficient nursing services for patients with hepatic encephalopathy.

5. Summary

Through clinical nursing research on 80 patients with hepatic encephalopathy, this study compared and analyzed the application effects of conventional nursing and high-quality nursing. The results show that high-quality nursing can effectively reduce the incidence of complications in patients with hepatic encephalopathy, improve nursing satisfaction and quality of life, and improve liver function indicators. Centered on patients, high-quality nursing provides all-round nursing services for patients through personalized nursing assessment, refined condition monitoring, targeted dietary nursing, psychological nursing, safety nursing, and continuous nursing measures, meeting the diverse nursing needs of patients. Therefore, high-quality nursing has important clinical value in the nursing of patients with hepatic encephalopathy and is worthy of widespread promotion and application to help more patients with hepatic encephalopathy recover as soon as possible.

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