Original Article
The role of refined nursing combined with targeted nursing in patients with digestive tract hemorrhages complicated by liver cirrhosis

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Abstract: Objective: To explore the effect of refined nursing combined with targeted nursing on patients with gastrointestinal bleeding complicated by liver cirrhosis. Methods: 128 patients with gastrointestinal bleeding and liver cirrhosis admitted to our hospital from April 2018 to April 2019 were recruited as the study cohort and were randomly divided into a control group and an experimental group with 64 patients in each group. The patients in the control group underwent conventional nursing, and the experimental group underwent refined nursing combined with targeted nursing. The two groups' clinical efficacy, complication rates, psychological states, prognoses, quality of life, and nursing satisfaction were statistically analyzed. Results: The clinical curative effect, prognosis complication rate, psychological state scores, quality of life scores, and nursing satisfaction in the experimental group were significantly better than they were in the control group (*P*<0.05). Conclusion: Refined nursing combined with targeted nursing has a more significant clinical effect than the conventional nursing mode due to its strengths in improving patients' prognoses, psychological states, and quality of life, and reducing the incidence of complications, improving the patients' nursing satisfaction, and establishing good doctor-patient relationships.

Keywords: Meticulous nursing mode, targeted nursing, gastrointestinal bleeding, cirrhosis

Introduction

Liver cirrhosis is a common chronic liver disease seen clinically, and it is mainly caused by stem cell necrosis, the nodular regeneration of residual cells, fibrosis, and connective tissue hyperplasia [1, 2], wherein the hepatic lobule structure is destroyed, and false lobules are form, leading to the deformation and hardening of the liver. In the case of liver cirrhosis, the liver is prone to portal hypertension, resulting in esophageal and gastric varices and further rupture and bleeding [3]. Generally, gastrointestinal hemorrhage complicated by liver cirrhosis occurs in the elderly, and is likely to cause shock, and even induce hepatic encephalopathy in severe cases [4]. Prior studies have demonstrated that the effective nursing mode plays a vital role in patients with gastrointestinal bleeding complicated by liver cirrhosis, as it can relieve the symptoms of hematemesis, nausea, and black stools, and it can reduce the

occurrence of complications and improve patients' psychological states and prognoses [5-8]. Refined nursing combined with targeted nursing is a mode where possible adverse treatment events are analyzed through targeted nursing in patients with digestive tract hemorrhage complicated by liver cirrhosis, and refined nursing intervention is implemented to effectively prevent and avoid the potential risk factors. The combination of the two care modes can significantly reduce the occurrence of adverse events in patients with digestive tract hemorrhage complicated by liver cirrhosis. Psychological nursing is based on patients' psychological characteristics, so the targeted nursing interventions are implemented accordingly. The purpose is to regulate the patients' bad moods, improve the patients' cooperation with the nursing, reduce the occurrence of psychological problems, and thereby improve the patients' treatment effectiveness and nursing quality. This study is being undertaken to vali-

Table 1. Comparison of the general data between the experimental group and the control group (n=64)

	Experimental group	Control group	t or X^2	P
Age (years old)	52.8±6.3	53.6±7.2	0.6689	0.5047
Education level			0.0359	0.850
Primary school	21 (32.81%)	20 (31.25%)		
Above primary school	43 (67.19%)	44 (68.75%)		
Smoking			0.1455	0.703
Yes	43 (67.19%)	45 (70.31%)		
No	21 (32.81%)	19 (29.69%)		
Alcohol drinking			0.0393	0.843
Yes	47 (73.44%)	46 (71.88%)		
No	17 (26.56%)	18 (28.13%)		
Gender			0.7970	0.372
Male	39 (60.94%)	34 (53.13%)		
Female	25 (39.06%)	30 (46.88%)		
Residence			0.1281	0.720
Town	36 (56.25%)	38 (59.38%)		
Countryside	28 (43.75%)	26 (40.63%)		

date the value of refined nursing and targeted nursing in patients with digestive tract hemorrhages complicated by liver cirrhosis.

Materials and Methods

Participants

A total of 128 patients with liver cirrhosis and gastrointestinal bleeding admitted to our hospital from April 2018 to April 2019 were recruited as the study cohort and were equally randomized into a control group and an experimental group. The subjects included 73 males and 55 females, ranging in age from 31 to 76 years old. Their baseline data were homogeneous (*P*>0.05). See **Table 1**.

Inclusion criteria

① Patients diagnosed with gastrointestinal bleeding complicated by cirrhosis according to their symptoms, gastroscopy, and B-ultrasound, and ② Patients without other organic or metabolic diseases and with stable vital signs. ③ This study was approved by the hospital ethics committee, and the patients and their families were informed of the purpose and process of this study, accepted the nursing plan and signed the informed consent form.

Exclusion criteria

① Patients also suffering from brain, heart, kidney, or other organ and tissue diseases, ② patients with gastrointestinal bleeding caused by esophageal cancer, gastric cancer, or duodenal disease, ③ Patients with mental and other cognitive disorders or who refused to cooperate with this study.

Methods

Control group. According to the patients' clinical symptoms, the routine nursing mode was adopted according to the doctor's advice, mainly including routine fasting, hemostasis, and maintaining their electrolyte balance [9].

Experimental group. Based on the conventional nursing mode, refined nursing and targeted nursing plans were formulated based on each patient's condition, which mainly involved the followings. ① Detailed nursing: Pay attention to the patient's ward environment, maintain daily cleanliness, control the humidity and temperature in the ward, and strictly control the number of accompanying and visiting family members, so that the patient can stay in a favorable rest environment [10-13]. ② Psychological intervention: Gastrointestinal hemorrhage complicated by liver cirrhosis has a great influence on patients' health and has a poor prognosis. Therefore, the patients are prone to negative emotions such as boredom and depression in the nursing process. The nursing staff is required to be keenly aware of the patients' emotional changes and must carry out psychological counseling accordingly. The staff can work together with the patients' families to strengthen the psychological intervention, and increase the patients' confidence in facing life and recovering from their diseases. ③ Routine nursing: Closely observe the changes in the patients' vital signs, monitor and record each patient's 24-hour urine output, and pay attention to each patient's oral and skin care, and always keep the bed clean and dry to prevent pressure sores [12]. ④

Table 2. Comparison of the clinical efficacy of two groups of patients (n=64, %)

Group	Invalid	Effective	Significantly effective	Total effective rate
Experimental group	6.25% (4/64)	37.5% (24/64)	56.25% (36/64)	93.75% (60/64)
Control group	18.75% (12/64)	39.06% (25/64)	42.19% (27/64)	81.25% (52/64)
X^2				4.5714
P				0.033

Hemorrhage nursing: The nursing staff should be familiar with the symptoms of gastrointestinal bleeding, and determine the patients' bleeding positions, amount, and speed through their clinical symptoms [13]. ⑤ Prevention of infection: Patients with liver cirrhosis generally are generally characterized by a long course of the disease and poor physical immunity, and are prone to infections in other organs such as the lungs, the gastrointestinal tract, and the abdominal cavity. Nurses should inform the patients and their families promptly of any possible infections, and explain the significance of ventilation, disinfection, and other details [14-17]. ⑥ Dietary guidance: Patients with acute gastrointestinal bleeding accompanied by nausea and vomiting need to fast, and maintain a balance in their nutrition, water, and electrolytes using intravenous injections. When there is little bleeding and no vomiting, the patients should be instructed to have a small amount of light liquid food. When there are no bleeding symptoms, the patients should be encouraged to eat nutritious and digestible semi-liquid food or soft food. ⑦ Defecation nursing: The nurses guide the patients to defecate normally and use drugs rationally according to their conditions [18-21]. ⑧ Health education: For the patients who will be discharged from the hospital, the nursing staff should communicate with the patients and their families about early bleeding symptoms and emergency treatment, guide the patients and their families to eat reasonably, standardize their living habits, remind them to review their conditions regularly, and improve the patients' compliance [22].

Observation indicators

Clinical efficacy: Significantly effective: the patient's bleeding, vomiting, and other adverse symptoms disappeared, the patient's defecation is normal, and the continuous defecation occult blood examination was negative. Effective: the clinical adverse symptoms are alleviated, the bleeding and hematemesis disappeared, the blood pressure and pulse are normal, and the occult blood examination is negative. Ineffective: the bleeding and hematochezia still occurred after 72 hours of treatment, and the pulse and blood pressure are unstable. Total effective rate = significantly effective rate + effective rate.

Complications: The incidences of complications, such as hepatic encephalopathy, secondary infections, and rebleeding, were recorded, and the incidence of complications was calculated.

Psychological states: The Self-Rating Anxiety Scale (SAS) and the Self-Rating Depression Scale (SDS), with a total possible score of 100 points each, were used to assess the patients before and after the nursing intervention. The higher the score, the more serious the psychological status.

Prognosis and quality of life: The 100-item World Health Organization Quality of Life Assessment (WHOQOL-100) was used to evaluate the patients' quality of life, including the four dimensions of psychological state, physiological state, social function, and environmental field, with a total possible score of 100 points. The higher the score, the higher the patients' quality of life.

Nursing satisfaction: A self-made questionnaire was used to investigate the patients' satisfaction with the nursing, and the questionnaire was classified into dissatisfied, basically satisfied, and extremely satisfied. The questionnaire mainly covered the nurses' professionalism, attitude, and work quality, with a total possible score of 100 points. A score over 90 points indicated extremely satisfied, 70-90 points indicated basically satisfied, and below 70 points indicated dissatisfied. Total nursing satisfaction = basically satisfied + extremely satisfied.

Table 3. Comparison of the incidence of complications between the two groups (n=64, %)

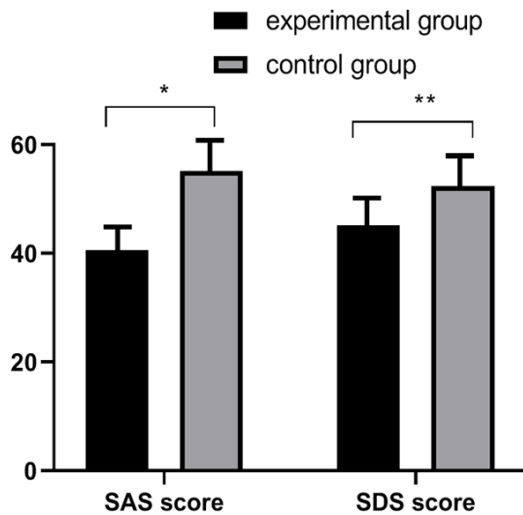| Group	Hepatic encephalopathy	Secondary infection	Re-bleeding	Incidence of complications
Experimental group	3.13% (2/64)	1.56% (1/64)	1.56% (1/64)	6.25% (4/64)
Control group	9.38% (6/64)	7.81% (5/64)	6.25% (4/64)	23.44% (15/64)
X^2				7.4985
P				0.006

Figure 1. Comparison of the psychological state scores of two groups (n=64). Note: The abscissa represents the psychological state evaluation, and the ordinate represents the score. The SAS and SDS scores in the experimental group after the intervention were (40.58±5.73) and (45.19±6.14), respectively. The patients' SAS and SDS scores in the control group after the intervention were (55.24±6.08) and (52.37±6.45), respectively. * The SAS scores in the experimental group were significantly better than they were in the control group (t=40.0378, P=0.000); ** The SDS scores in the experimental group were significantly better than they were in the control group (t=6.4502, P=0.000).

Statistical analyses

The analysis was done using SPSS 20.0 software. The count data were calculated as [% (n)] and X^2 tests were carried out for the difference examinations. The measurement data were given as ($\overline{x}$ ± s) and t tests were performed for the comparisons. Significance was considered to be a *P-value less than* 0.05.

Results

Clinical efficacy

Table 2 demonstrates that the clinical efficacy of the experimental group was significantly higher than it was in the control group (P<0.05).
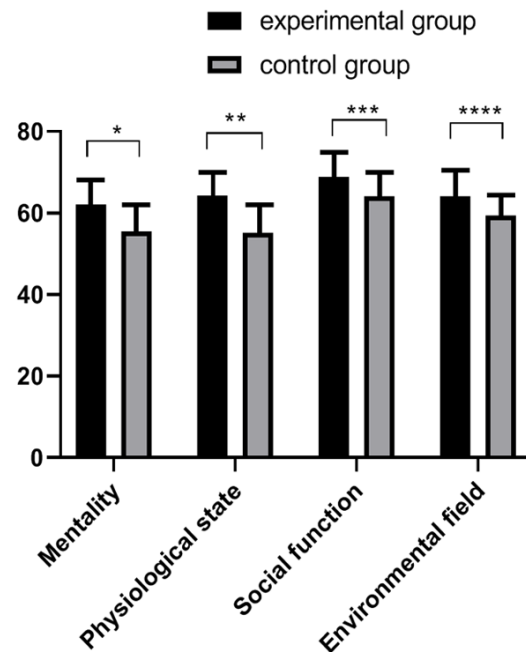

Figure 2. Comparison of the two groups' prognoses and quality of life (n=64). Note: The abscissa represents the quality of life dimension, and the ordinate represents the score. The mental state, physiological state, social function, and environmental field scores in the experimental group were (62.14±10.26), (64.33±10.71), (68.86±10.92) and (64.13±10.37), respectively. The mental state, physiological state, social function, and environmental field scores in the control group were (55.42±9.71), (55.09±9.23), (64.07±9.72) and (59.38±10.29), respectively. * There was a significant difference in the psychological state scores between the experimental group and the control group (t=3.8057, P=0.0002); ** There was a significant difference in physiological statuses between the experimental group and the control group (t=5.2283, P=0.000). *** There were significant differences in the social function scores between the experimental group and the control group (t=2.6212, P=0.0098). **** There were significant differences in environmental field scores between experimental group and control group (t=2.6011, P=0.0104).

The incidence of complications

We observed that the incidence of complications in the experimental group was significant-

Table 4. Comparison of the nursing satisfaction of the two groups of patients (n=64, %)

Group	Dissatisfied	Basically satisfied	Extremely satisfied	Total satisfaction
Experimental group	4.69% (3/64)	29.69% (19/64)	65.63% (42/64)	95.31% (61/64)
Control group	15.63% (10/64)	37.5% (24/64)	46.88% (30/64)	84.38% (54/64)
X^2				4.1953
P				0.041

ly lower than it was in the control group (P<0.05). See **Table 3** for details.

Psychological state

The SAS scores and SDS scores were lower in the experimental group when compared with the control group, see **Figure 1**.

Quality of life

With regard to the mental state, physiological state, social function and environmental field scores, the experimental group was superior to the control group (P<0.05), see **Figure 2**.

Comparison of the nursing satisfaction between the experimental group and the control group

As presented in **Table 4**, the experimental group was had a higher satisfaction rate (*P*<0.05).

Discussion

Gastrointestinal hemorrhage complicated by liver cirrhosis evolves rapidly and has a high mortality rate. Notably, the patients can suffer from both physical and psychological torture, resulting in decreased physical fitness and a weakened immunity [25, 26]. This current study demonstrated that compared with the control group, the clinical efficacy, complication rate, psychological state scores, quality of life scores, and the nursing satisfaction were significantly higher in the experimental group (*P*<0.05). Generally speaking, patients with gastrointestinal bleeding complicated by liver cirrhosis are prone to negative emotions due to the long course of the disease, its high cost, and their poor prognoses, which in turn affects the patients' physical recovery and leads to the occurrence of adverse complications such as re-bleeding and infection. In addition, scientific and reasonable eating habits also play a role in the recovery. Some patients tend to eat spicy and indigestible food, and it can result in gastrorrhagia. Therefore, refined nursing combined with targeted nursing is a personalized plan formulated according to the patients' actual conditions, so preventive measures should be taken in advance during the nursing process. Additionally, attention should be paid to the patients' psychological changes, wherein the medical staff need to cooperate with the family members to eliminate the patients' anxiety, fear, irritability, and other bad emotions, and increase the patients' confidence. These findings are supported by the study of ZhouYu-Jie [27] suggesting that the targeted nursing mode for patients with liver cirrhosis complicated by gastrointestinal bleeding can significantly improve the patient compliance with the nursing staff, which is conducive to the prognosis and the physical recovery. Importantly, it can also reduce the adverse effects of pessimism, improve the patients' prognosis and quality of life, and reduce the occurrence of complications. The limitation of this study includes the small sample size, and the lack of a long-term follow-up, so the patients' quality of life and psychological states after their discharge were not evaluated. In the future, these flaws are expected to be rectified in upcoming studies.

To sum up, refined nursing combined with targeted nursing is a preferable method for patients with gastrointestinal bleeding complicated by liver cirrhosis, due to its strengths in improving patients' prognoses, reducing the occurrence of complications, and increasing the nursing satisfaction.

Disclosure of conflict of interest

None.

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