

OBSERVATION ON THE CLINICAL EFFECT OF COMPREHENSIVE NURSING INTERVENTION IN THE TREATMENT OF PATIENTS WITH THORACIC BURN SCARS

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ABSTRACT

Introduction: To explore and analyze the clinical effect of comprehensive nursing intervention in the treatment of patients with chest burn scars.

Materials and methods: 100 patients who underwent chest burn treatment were selected as experimental and control groups. The patients in the control group were given general routine care, and the patients in the observation group were given comprehensive care based on the control group. The results were obtained after comparing the changes in the observed indicators of the two groups.

Results: The number of patients with complications and the incidence of complications was significantly lower than that in the control group ($P<0.05$). The serum albumin and hemoglobin levels in the observation group were significantly higher and the quality of life of patients in the observation group improved significantly more than that in the control group ($P<0.05$). The satisfaction of patients in the observation group and the nursing effect of patients in the observation group was significantly better than that of patients in the control group ($P<0.05$).

Conclusion: The implementation of comprehensive nursing interventions in the treatment of burn patients can not only effectively replenish the nutritional energy needed by patients with severe burns, significantly reduce the incidence of complications and improve the quality of life of patients, but also restore patients' confidence in treatment and enable them to integrate into society more quickly, which is a model of care worth promoting in clinical practice.

Keywords: Chest burns, comprehensive care, nursing effect, psychological care.

DOI: 10.19193/0393-6384_2022_3_269

Received January 20, 2022; Accepted March 15, 2022

Introduction

Body surface burns combined with chest impact injuries are one of the serious types of burn-impact combined injuries, which are more common in high-temperature container explosions, underground coal dust explosions, gas explosions, black powder explosions, flammable gas explosions, etc.^(1, 2). Chest burns are generally accompanied by closed injuries, and most patients have rib fractures. Severe multiple rib fractures are prone to hemothorax or pneumothorax, and more severe cases can cause lung

blast injury. The first symptom that appears after chest injury is dysfunction of respiratory circulation, the degree of which varies with the injury. Because severe internal chest injury can cause sudden death due to acute hypoxia, bleeding, sharp increase in intrathoracic pressure, acute cardiac tamponade or severe arrhythmia⁽³⁾. At the same time, chest burns can cause very strong psychological stress, clinically showing various physiological and psychological reactions and behavioral maladaptation, which in turn affects the patient's recovery⁽⁴⁾. Therefore, comprehensive rehabilitation nursing for patients can

further effectively improve the status of patients after surgery and reduce their psychological burden. This study implemented comprehensive rehabilitation nursing for 100 patients with extensive burns in our hospital. The relevant cases were reported as follows.

Materials and methods

Subjects

A total of 100 patients who underwent chest burn treatment in our hospital from May 2014 to April 2019 were selected as the research objects, and were subdivided into the observation group and the control group by random allocation. Among them, in the observation group (n=50), there were 23 males and 27 females; they were 20 to 45 years old, with an average age of 32.5 ± 12.5 years old. Causes of burns: 27 cases of liquid scalds, 14 cases of flame burns, and 9 cases of chemical burns. Burn sites: 39 cases of simple chest burns, and 11 cases of multiple skin burns, none of which were accompanied by respiratory tract burns.

The burn area was 7 to 30%, and the burn depth: 29 cases of simple superficial second degree, 14 cases of deep second degree with superficial second degree, and 7 cases of third degree. In the control group (n=50), there were 30 males and 20 females; they were 24 to 60 years, with an average age of 42 ± 18.0 years old. Causes of burns: 28 cases of liquid scalds, 12 cases of flame burns, and 10 cases of chemical burns. Burn sites: 37 cases of simple chest burns, 12 cases of multiple skin burns, and 1 case of respiratory tract burns. The burn area was 7% to 30%, and the burn depth: 27 cases of simple superficial second degree, 17 cases of deep second degree accompanied by superficial second degree, and 6 cases of third degree. There was no significant difference in the general clinical data of the two groups of patients ($P > 0.05$).

Inclusion criteria:

- Patients and family members signed the research consent, and the research was approved by the hospital ethics committee. The patient met the criteria for judging mild to moderate burns.

Exclusion criteria:

- Patients who were unable to complete psychological interventions, such as poor comprehension and no reading ability;
- Patients with mental illness or low coordination;
- Patients with other medical diseases and co-infections.

Methods

The control group was given routine nursing intervention, mainly including cleaning up body surface wounds in time, establishing venous access, monitoring the vital signs of patients, etc. The patients in the observation group were given comprehensive nursing.

The specific measures were as follows:

- Infusion nursing: the nursing staff must first ensure that the infusion treatment was carried out for the patient under aseptic conditions to prevent the patient from causing adverse reactions such as infection, etc; the experienced nursing staff was selected to perform infusion for patients, improving the success rate of venipuncture and reducing the suffering of patients;

- Nutritional nursing: burn patients lost a lot of body fluids and were prone to a variety of serious complications and even life-threatening. Therefore, patients were supposed to be given a large amount of nutrition and energy supply during the emergency period to meet the needs of patients for wound recovery⁽⁵⁾. When giving parenteral nutrition, nursing staff were supposed to pay attention to the concentration of the drug and the order of dispensing. When using drugs containing fat emulsion, they were supposed to choose central venous injection. When giving enteral nutrition, the nursing staff were supposed to inject the nutritional drugs into the patients' gastrointestinal tract at a uniform rate and heating within the prescribed time according to the doctor's instructions. After the patient's condition improved, in order to improve the patient's digestion and absorption capacity, the patient's head could be raised 15-30°;

- Psychological nursing: burn patients were prone to negative feelings of inferiority and depression due to suffering serious damage to their skin. Nursing staff were supposed to understand and respect the patients from the perspective of the patients, understand the patients' inner thoughts with appropriate communication methods, and promptly give corresponding guidance, and at the same time encourage family members to accompany the patient more, eliminating the patients' bad mood as soon as possible and actively cooperating with the doctor for treatment.

Observation indexes

- After nursing intervention, the occurrence of complications between the two groups was observed and compared.

- Changes in contents of serum albumin and hemoglobin before and after intervention.

- The nursing effects of burn patients (healed, markedly effective, effective, and ineffective) were compared.

- Comparison of the improvement of the quality of life of burn patients (physical, psychological, social) was the actual observation index.

- Nursing satisfaction data was obtained through questionnaire surveys. Nursing satisfaction was obtained by (number of patients who were very satisfied + number of patients who we satisfied)/total number of patients × 100%.

Among them, if the score was less than 60 points, it meant unsatisfied, and if the score was 61-90 points, it meant satisfied, and if the score >90 points, it meant very satisfied. The higher the score, the higher the patient’s satisfaction with nursing.

Statistical analysis

The two groups of research data were analyzed using SPSS 22.0 software.

The measurement data was [n (%)], and the χ^2 test was performed; the measurement data was ($\bar{x} \pm s$), and the t-test was performed.

P-value<0.05 indicated that the statistical significance.

Results

Comparison of nursing satisfaction degree between the two groups of patients

In the comparison of nursing satisfaction between the two groups of patients, in the observation group: 3 cases were unsatisfied, 20 cases were satisfied, 27 cases were very satisfied, and the total satisfaction degree was 47 (94.00%); in the control group: 13 cases were unsatisfied, 26 cases were satisfied, 11 cases were very satisfied, and the total satisfaction degree was 37 (74.00%); the nursing satisfaction of the patients in the observation group was significantly higher than that of the control group, and the difference was statistically significant ($\chi^2=10.417$, $P<0.05$).

Groups	n	Unsatisfied (%)	Satisfied (%)	Very satisfied (%)	Satisfaction degree (%)	P
Observation group	50	3 (6.00)	20 (40.00)	27 (54.00)	47 (94.00)	<0.05
Control group	50	15 (30.00)	26 (52.00)	11 (18.00)	37 (74.00)	

Table 1: Nursing satisfaction degree of the two groups of patients.

Comparison of nursing effect between two groups of patients

In the comparison of the nursing satisfaction effect between the two groups of patients, in the observation group: 7 cases were ineffective, 16 cases were effective, 19 cases were markedly effective, 8 cases were cured, and the total number of effective cases was 43 (86.00%); in the control group: 13 cases were ineffective, 18 cases were effective, 15 cases were markedly effective, 4 cases were cured, and the total number of effective cases was 37 (74.00%); the nursing effect of the observation group was significantly better than that of the control group, and the difference was statistically significant ($\chi^2=7.251$, $P<0.05$), as shown in Table 2.

Groups	n	Ineffective (%)	Effective (%)	Markedly effective (%)	Cured (%)	Satisfaction degree (%)	P
Observation group	50	7 (14.00)	16 (32.00)	19 (38.00)	8 (16.00)	44 (86.00)	<0.05
Control group	50	13 (26.00)	18 (36.00)	15 (30.00)	4 (8.00)	37 (74.00)	

Table 2: Comparison of the nursing effect of the two groups of patients.

Comparison of the occurrence of complications after nursing intervention between the two groups

The patients with complications in the observation group were significantly fewer than in the control group, and the incidence of complications in the observation group was significantly lower than that of the control group ($P<0.05$), as shown in Table 3.

Groups	n	Infection (%)	Vomiting (%)	Diarrhea (%)	Gastric retention (%)	Complication rate (%)	P
Observation group	50	3 (6.00)	2 (4.00)	1 (2.00)	2 (4.00)	8 (16.00)	<0.05
Control group	50	5 (10.00)	6 (12.00)	3 (6.00)	4 (8.00)	18 (36.00)	

Table 3: The occurrence of complications after nursing intervention in the two groups.

Comparison of the contents of serum albumin and hemoglobin before and after nursing intervention between the two groups

The contents of serum albumin and hemoglobin in the observation group were significantly higher than those in the control group ($P<0.05$), as shown in Table 4.

Improvement of life quality of burn patients

The quality of life of patients in the observation group improved significantly compared with that in the control group ($P<0.05$), as shown in Table 5.

Groups	n	Serum albumin		Hemoglobin	
		Before nursing	After nursing	Before nursing	After nursing
Observation group	50	27.65±2.81	36.22±2.37 ^{a-b}	85.24±2.93	118.09±4.39 ^{a-b}
Control group	50	27.73±2.66	29.17±2.01 ^a	86.10±2.88	99.36±5.21 ^a

Table 4: The contents of serum albumin and hemoglobin before and after nursing intervention in the two groups. Note: *a* versus before nursing, $P<0.05$; *b* versus control group, $P<0.05$.

Groups	n	Physical	Psychological	Social	Comprehensive	P
Observation group	50	6.78±2.76	4.98±1.7	5.15±2.43	5.64±2.17	<0.05
Control group	50	2.49±1.45	3.54±1.04	2.78±1.49	3.25±1.87	

Table 5: The improvement of the quality of life of burn patients.

Discussion

Chest burn is one of the common clinical burns. It is very easy to be complicated by infection, shock, respiratory tract injury and other serious complications^(3, 6). If it is not rescued in time, chest burn will easily lead to the deterioration of the patient's condition and even death. Rapid and reasonable fluid infusion is one of the effective measures to rescue burn patients. However, after patients suffer extensive burns, a large number of veins are destroyed, and there are often few venous channels that can be established, while patients with chest burns generally have quite large needs for fluid infusion. It is very challenging for clinical rescue work. Due to the loss of a large amount of body fluids, burn patients need to be given a large amount of nutritional energy during the emergency period to meet the needs of the patient's wound recovery, while the nutritional needs of the patient cannot be met by a regular diet alone. In this case, the nursing staff can give the patient parenteral nutrition and enteral nutrition support. When giving the patient parenteral nutrition, once the nursing staff makes a mistake during the operation, it is very easy to cause the patient to have adverse reactions such as infection, etc., and even threaten the lives of patients. Therefore, the quality of nursing is directly related to the life safety of burn patients.

Comprehensive nursing is a comprehensive and efficient nursing management mode, which can significantly improve the quality of nursing, effectively supplement the nutritional energy needed by patients, and reduce the incidence of

complications⁽⁷⁻⁹⁾. In this study, the comprehensive nursing was adopted for the patients in the observation group, and satisfactory results were achieved. The patients with complications in the observation group were significantly fewer than in the control group, the incidence of complications was significantly lower than that of the control group ($P<0.05$), and the contents of serum albumin and hemoglobin in the observation group were significantly higher than those in the control group ($P<0.05$). In addition, studies have shown that the quite serious inferiority complex caused by burns will cause patients to have a serious psychological burden and the decline in social adaptability, which leads to a decline in patients' recovery ability^(4, 10, 11).

Therefore, it is particularly important to choose active psychological nursing from the clinical intervention methods for treating burn patients to improve the prognosis of young female burn patients⁽¹²⁾. Psychological counseling included in comprehensive rehabilitation care will enable patients to overcome negative psychological emotions, face reality bravely, build confidence in treatment, and actively cooperate with treatment⁽¹³⁾. Cognitive-behavioral intervention is to improve patients' misunderstanding of their own disease through systematic psychological intervention and cognitive-behavioral intervention, thereby establishing treatment confidence and improving patients' treatment awareness⁽¹⁴⁾. The results of this study showed that after comprehensive nursing for patients, the effective rate of nursing for patients in the observation group was significantly higher than that of the control group; the improvement scoring of the quality of life in the observation group is higher than that of the control group.

To sum up, the comprehensive nursing interventions implemented in the treatment of burn patients can not only effectively supplement the nutritional energy needed by burn patients, significantly reduce the incidence of complications, and improve the quality of life of patients, as well as restore the confidence of patients in treatment and enable patients to integrate into society more quickly, which is a nursing model that is worthy of clinical promotion.

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