Effect of Quality Nursing Intervention on the Efficacy of Treating Hypertrophic Burn Scars with Asiaticoside Cream Ointment and Nursing Satisfaction

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Objective. To explore the effect of quality nursing intervention on the efficacy of treating hypertrophic burn scars with asiaticoside cream ointment and nursing satisfaction. Methods. A total of 80 patients with hypertrophic burn scars treated in our hospital from January 2019 to January 2021 were retrospectively analyzed and divided into group A (conventional nursing) and group B (quality nursing) according to the different nursing modes, with 40 cases each. All patients were treated with the asiaticoside cream ointment, and after nursing intervention, the effect of different nursing modes on the patients' clinical efficacy and nursing satisfaction was scientifically evaluated. Results. No statistical differences in patients' general information were observed (P>0.05); the overall effective rate of treatment was obviously lower in group A than in group B (77.5% vs 95%, P<0.05); after nursing, the Vancouver Scar Scale (VSS) scores of patients in both groups were significantly lower than before (P<0.05), and the VSS scores after nursing of group B were significantly lower than those of group A (P<0.05); after nursing, the Hamilton Rating Scale for Depression (HAMD) scores and Hamilton Rating Scale for Anxiety (HAMA) scores were obviously lower in group B than in group A (P<0.05); and the overall satisfaction with nursing was significantly higher in group B than in group A (P<0.05). Conclusion. Performing quality nursing for patients with hypertrophic burn scars who accepted the asiaticoside cream ointment treatment can effectively promote clinical efficacy, reduce the negative emotions of patients, and improve the satisfaction with nursing.

Key words: quality nursing; asiaticoside cream ointment; hypertrophic burn scar; nursing satisfaction

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Scars are the marks left by wound healing after burn injury and the ultimate result of tissue repair, but some individuals often develop excessive tissue proliferation to form hypertrophic scars under the influence of some factors during the repair process[1-3]. The hypertrophic scar is constantly changing since it appears, and in the early stage of scar hyperplasia, the fibers grow fast and much, which compress the blood vessels inside the scar and make them gradually ischemic, so early treatment is advocated in the clinic[4]. Currently, topical pharmaceutical closure is mostly adopted for the treatment of early hypertrophic scars in China, and asiaticoside cream, which is commonly used in the clinic, is a Chinese patent medicine for the treatment of burns, keloids and scleroderma, which has been confirmed in many studies[5-8]. In the process of treating patients with hypertrophic burn scars in our hospital, it is found that such patients often

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present low treatment compliance, sadness and other phenomena, and the survey also found that patients after burn injury bear not only strong somatic pain, but also severe scar and even contracture in case of any carelessness, affecting esthetics and also hampering somatic function, and therefore they tend to have heavier physical and mental burden and can hardly be satisfied with conventional clinical nursing. Hence, the nursing plan was actively adjusted and a quality nursing model was implemented in the study. 80 patients with hypertrophic burn scars admitted to our hospital were screened for the retrospective analysis study to explore the effect of quality nursing on efficacy of treating hypertrophic burn scars with asiaticoside cream ointment and nursing satisfaction.

STUDY PLAN

Patients Screening and Grouping

A total of 80 patients with hypertrophic burn scars treated in our hospital from January 2019 to January 2021 were retrospectively analyzed and divided into group A (conventional nursing) and group B (quality nursing) according to the different nursing modes, with 40 cases each. All patients were treated with asiaticoside cream ointment; and the study was approved by the Hospital Ethics Committee.

Inclusion Criteria

① The patients met the clinical diagnosis criteria for hypertrophic scars[9]; ② the patients did not use relevant drugs in recent 2 months; ③ the patients' clinical information were complete; and ④ the patients and their family members understood the study purpose and process, and signed the informed consent.

Exclusion Criteria for Patients

① Presence of other severe external injury, hepatorenal diseases, infectious diseases or coagulation disorders; ② presence of communication disorders, cognitive disorders and limb movement disorders; ③ pregnant or lactating women; and ④ allergy to asiaticoside cream ointment.

Methods

The asiaticoside cream ointment treatment was performed on all patients, i.e. first cleaning the scar tissue to perform anesthesia, 20 min later, disinfecting the scar tissue, then apply the asiaticoside cream ointment on the scar[10-12]. After the ointment permeated the scar, elastic bandages were used for compression therapy twice a day for two courses of treatment (with 7 d as one course).

Conventional nursing measures were conducted for patients in group A, and quality nursing intervention was performed on patients in group B with the following steps. (1) Admission nursing: after admission, the patients immediately accepted wound management and cooperated with the doctors for debridement, dressing changing, and bandage fixing; the nursing personnel should inform the patients and their family members of the treatment process and encourage them to express their concerns and needs, so as to establish a trusting nurse-patient relationship, reduce the patients' loneliness and sense of unfamiliarity when they were staying in the hospital, relieve their mental burden and negative emotions, and improve the compliance of the patients and their family members; and by means of effective communication or distributing relevant materials, the nursing personnel informed the patients and their family members of the effect of scar on physical function and appearance as well as early preventive measures, and conducted health education; the psychological intervention was performed to increase the patients' confidence in treatment, and regular follow-up was conducted to improve their treatment initiative. (2) Strengthening basic nursing. ① The application of asiaticoside cream ointment on patients and the scar color change were monitored closely, and the compression treatment was performed in a timely manner[13-14]. ② During the process of wound healing, it was very likely to occur contiguous healing especially for patients with maxillofacial burns, leading to potential scar contraction and even adhesiveness. In this case, the nursing personnel should take targeted prevent and control measures, i.e. in supine position without a pillow, the patients did the motion exercise including stretching exercise with pauses under assistance twice a day (with each time lasting for more than 30 min). The early motion exercises were dominated by compression with gentle strength and movements, and the exercise volume was increased stepwise. ③ When the wound was healed, pressure garment or elastic bandages could be used to prevent scar hyperplasia, and should be replaced and cleaned regularly, checked for the pressure, and adjusted in a timely manner[15-16]. (3) Discharge nursing. The nursing personnel informed the patients and their family members of the importance, precautions and measures about preventing scars, and conducted regular

follow-up (once a week) after discharge and reminded the patients to come back to the clinic for further consultation.

Observation Indexes

General information. The general information mainly included the patients' age, gender, wound area on body surface, cause of disease, depth of burn, and etiological factors of burn.

Clinical efficacy. It was considered as cured if there was no itching or pain sensation, the scars were totally softened and flattened, and felt soft without callus by touching; markedly effective if the itching or pain sensation disappeared or was obviously alleviated, and 60%-70% of scars were softened and flattened; effective if the itching or pain sensation was improved, and 20%-60% of scars were softened and flattened; and ineffective if the scar appearance and symptoms changed slightly or were aggravated; and the total effective rate = (cured + markedly effective + effective) / total number × 100%.

Scar assessment. Before and after treatment, the patients' lesion was scored with the Vancouver Scar Scale (VSS) to evaluate the severity of scar in terms of scar color, blood circulation, softness and scar thickness. The total score was 15 points, with higher scores indicating more serious scars.

Negative emotions. ① The Hamilton Rating Scale for Depression (HAMD) included 17 items, with less than 7 points indicating no depression, 8-17 points indicated possible depression, and over 17 points indicated definite depression. ② The Hamilton Rating Scale for Anxiety (HAMA) included 14 items and each item was scored on a scale of 0-4 points, with less than 7 points indicated no anxiety, 7-14 points indicated possible anxiety, and over 14 points indicated definite anxiety.

Satisfaction. The degree of patient satisfaction with nursing was evaluated by the questionnaire proposed by our hospital. The maximum score was 100 points, with over 80 points indicating very satisfied, 60-79 points indicated satisfied, and less than 60 points indicated dissatisfied. The total satisfaction = (satisfied + very satisfied) / total number × 100%.

Statistical Processing

In this study, the between-group differences in data were calculated with SPSS22.0 software, the picture drawing software was GraphPad Prism 7 (GraphPad Software, San Diego, USA), items included were enumeration data and measurement data, which were expressed by [n(%)] and ($\bar{x}\pm s$) and examined by X^2 test and t-test, respectively, and differences were considered statistically significant at $P<0.05$.

RESULTS

General Information

No statistical differences in the patients' general information between the two groups were observed ($P>0.05$), which met the study criteria for control experiment. See Table 1 for specific values.

Table 1

Statistical analysis of patients' general information (n=40)

Observation indicator	Group A	Group B	X^2/t	P
Age (years)	25.58±4.21	26.16±4.33	0.607	0.545
Gender			0.208	0.648
Male	23 (57.5)	25 (62.5)		
Female	17 (42.5)	15 (37.5)		
Wound area on body surface (%)	4.33±1.35	4.18±1.37	0.493	0.623
Disease duration (months)	11.67±3.79	11.95±3.84	0.328	0.744
Cause				
Flame burn	17 (42.5)	18 (45)	0.051	0.822

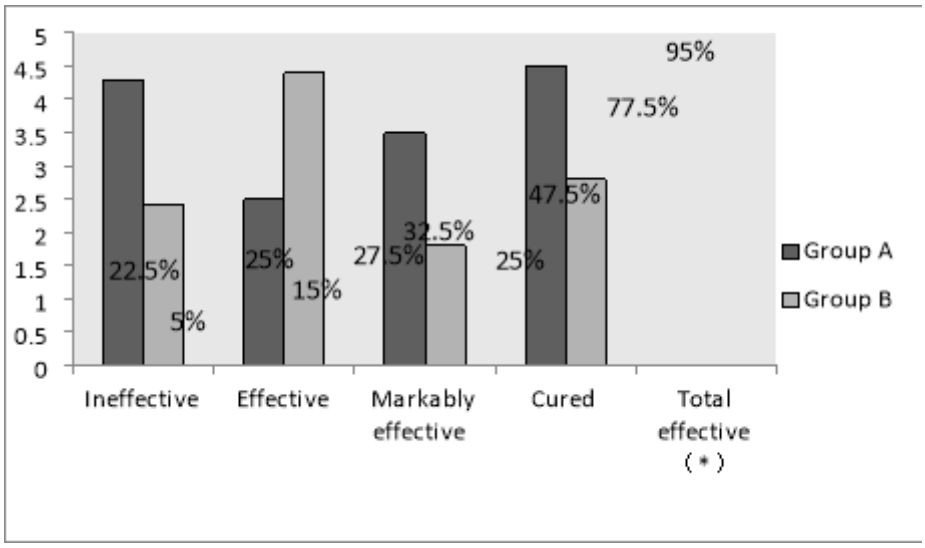
Hydrothermal burn	11 (27.5)	13 (32.5)	0.238	0.626
Chemical burn	6 (15)	5 (12.5)	0.105	0.745
Others	6 (15)	4 (10)	0.457	0.499
Depth of burn			0.208	0.648
Deep II degree	23 (57.5)	25 (62.5)		
III degree	17 (42.5)	15 (37.5)		
Burn position				
Face	5 (12.5)	4 (10)	0.125	0.723
Chest	1 (2.5)	2 (5)	0.346	0.556
Upper limb	26 (65)	28 (70)	0.228	0.633
Lower limb	8 (20)	6 (15)	0.346	0.556

Clinical Efficacy

The overall effective rate of treatment obtained by groups A and B was 77.5% and 95%, respectively, with a statistical significant between-group difference (P<0.05), see Figure 1.

Figure 1

Statistical analysis of patients' clinical efficacy (n=40, %)



Note: The horizontal axis indicated the evaluation dimensions, and the vertical axis indicated the percentage (%);

In group A after treatment, there were 9 ineffective cases, 10 effective cases, 11 markedly effective cases, and 10 cured cases, and the number of total effective cases was 31;

In group B after treatment, there were 2 ineffective cases, 6 effective cases, 13 markedly effective cases, and 19 cured cases, and the number of total effective cases was 38; and

* indicated that the overall effective rates of treatment of patients between the two groups were significantly different (X^2=5.165, P=0.023).

VSS Scores

After nursing, the VSS scores of patients in both groups were significantly lower than before (P<0.05), and the VSS scores of patients after treatment were significantly lower in group B than in group A (P<0.05), see Table 2.

Table 2

Statistical analysis of patients' VSS scores ($\bar{x}\pm s$)

Group	N	Before nursing	After nursing
Group A	40	13.58±3.49	7.35±2.81*
Group B	40	13.82±3.66	5.14±1.37**
t			4.471
P			<0.001

* indicated that the VSS scores before and after nursing of group A were significantly different (t=8.794, P<0.001); and

** indicated that the VSS scores before and after nursing of group B were significantly different (t=14.047, P<0.001).

2.4 Negative emotions

After nursing, the HAMD scores and HAMA scores were obviously lower in group B than in group A (P<0.05). See Table 3.

Table 3

Statistical analysis of patients' HAMD scores and HAMA scores

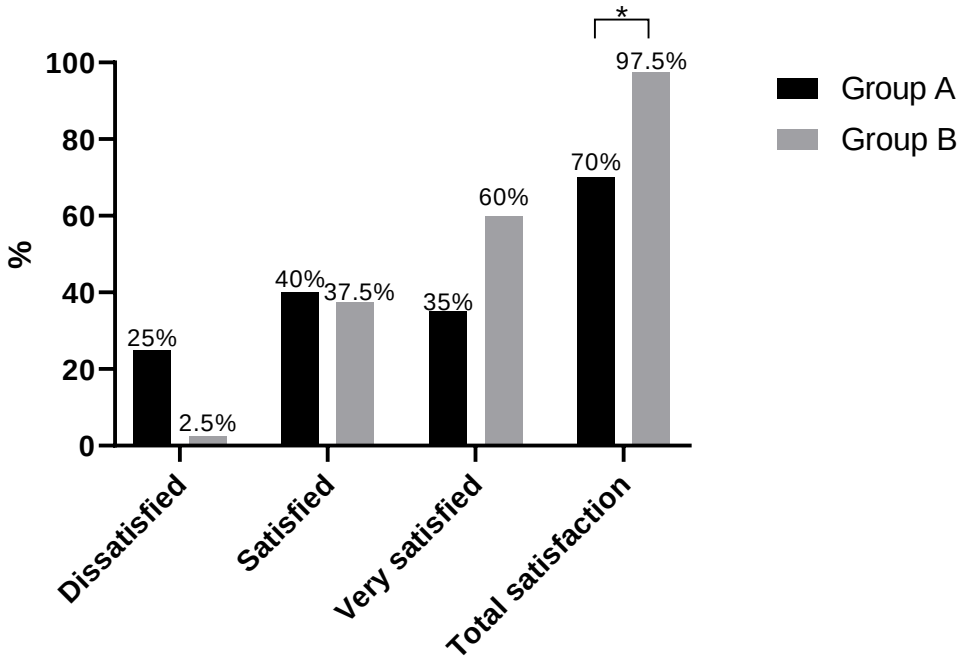
Evaluation indicator		Group A (n=40)	Group B (n=40)	t/P
HAMD	Before nursing	18.54±3.62	18.49±3.55	
	After nursing	16.64±3.05	11.18±2.53	8.714/<0.01
HAMA	Before nursing	15.33±4.81	15.56±4.77	
	After nursing	13.24±3.50	10.18±2.73	4.360/<0.01

Satisfaction with Nursing

The overall patient satisfaction with nursing was significantly higher in group B than in group A (P<0.05). See Figure 2 for specific data.

Figure 2

Statistical analysis of patient satisfaction with nursing (n=40, %)



Note: The horizontal axis indicated the evaluation dimensions, and the vertical axis indicated the percentage (%);

In group A, there were 10 dissatisfied cases, 16 satisfied cases, 14 very satisfied cases, and the number of total satisfied cases was 30;

In group B, there were 1 dissatisfied cases, 15 satisfied cases, 24 very satisfied cases, and the number of total satisfied cases was 39; and

* indicated that the total patient satisfaction with nursing between the two groups was significantly different (X^2=8.538, P=0.003).

DISCUSSION

Burn patients may suffer from somatic pain such as tissue necrosis, inflammatory reactions, and infection, and if any carelessness, scars that affect appearance and even cause body dysfunction in severe cases may be left in the process of wound repair, which can seriously reduce patients' quality of life and self-confidence, and bring a great psychological stress and economic burden to patients[17-20]. Previously, studies have reported that implementing positive nursing interventions for patients with hypertrophic burn scars who might develop conditions such as functional impairment, deformity, and adverse emotions can effectively enhance the therapeutic effects and also benefit patients to actively confront their lives and return to society[21-24]. Therefore, a high-quality nursing intervention was adopted in our hospital for patients with hypertrophic burn scars who received asiaticoside cream ointment treatment, which presented a good clinical result. Based on this, the effect of quality nursing intervention on the clinical efficacy and nursing satisfaction of patients with hypertrophic burn scars treated with asiaticoside cream ointment was retrospectively summarized herein, so as to provide reference for clinical nursing.

In this study, patients in group A received the conventional nursing measures, and patients in group B accepted the quality nursing intervention. By comparing and analyzing their clinical data and information, it was found that the overall effective rate of treatment was obviously lower in group A than in group B (77.5% vs 95%, P<0.05). In JOCHEN BERGS's study[25], patients in the control group were only treated with

asiaticoside cream ointment and achieved the clinical efficacy of 76.83%, which was close to the result of group A in this study. With the influence of quality nursing intervention, the overall effective rate of treatment obtained by patients in group B increased by 17.5%, indicating that performing quality nursing for patients with hypertrophic burn scars had positive effect, which was mainly due to the fact that in terms of nursing services, quality nursing was greatly improved than the conventional nursing. Quality nursing was patient-centered, focused on the strengthening of basic nursing, fully implemented the nursing accountability system and deepened the connotation of nursing profession, so as to improve the overall nursing level and fundamentally resolve the nursing needs and psychological burden of patients with hypertrophic burn scars. In addition, the VSS scores of patients in both groups after nursing were significantly lower than before ($P<0.05$), and the VSS scores of patients after nursing were significantly lower in group B than in group A ($P<0.05$); the HAMD scores and HAMA scores of patients after nursing were obviously lower in group B than in group A ($P<0.05$); and the overall patient satisfaction with nursing of group B was significantly higher than that of group A ($P<0.05$). The objectives of quality nursing model were to put patients first in terms of ideas, nursing behaviors, and all actions, and improve nursing quality and control nursing cost by tightly surrounding the physical and mental needs of patients; and with high-quality nursing measures as the core, to simplify the work flow and try to provide patients with nursing services featuring high efficiency, high quality, low consumption, reassurance and satisfaction. Therefore, when implementing quality nursing measures in our hospital, patients' emotional lability and economic burden as well as potential complications such as scar contracture, adhesion, and dysfunction were fully considered, thus ensuring the final treatment outcomes through effective intervention.

The main contents of quality nursing are summarized as follows. ① First, satisfy the patients' basic life needs, ensure their safety, maintain their physical comfort, and deeply focus on the quality of people-centered nursing with simple measures. ② Safeguard the physical nursing services for patients, and at the same time, assist in balancing the patients' mind, actively achieve coordination and support from the patients' family and the society, and improve the satisfaction of patients and the society with superior nursing quality. The shortcomings of this study are summarized as follows. ① To ensure data accuracy, the sample size still needs to be expanded for deep and multi-center study. ② There is individual variability in patients' nursing needs, so nursing measures in clinical practice are non-uniform, and coping approaches for some extreme cases shall be adopted, so that the application of quality nursing to patients with hypertrophic burn scars can be more mature.

In conclusion, performing quality nursing for patients with hypertrophic burn scars who accepted the asiaticoside cream ointment treatment can effectively promote clinical efficacy, reduce patients' negative emotions, and improve satisfaction with nursing.

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