

Original Article

Fine nursing model combined with psychological intervention on patients after eyeball enucleation due to ocular trauma

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Abstract: Purpose: To study the effect of fine nursing model combined with psychological intervention on quality of life and psychological state of patients after eyeball enucleation due to ocular trauma. Methods: 80 patients with eyeball enucleation due to ocular trauma admitted to our hospital from January 2017 to July 2019 were randomly selected and divided into control group and experimental group by coin tossing, with 40 patients in each group. Patients in the control group received routine nursing care, and patients in the experimental group received refined nursing with psychological intervention. Quality of life index (QLI) score, pittsburgh sleep quality index (PSQI) quality of sleep score, mental state assessment scale (MSSNS) score, self-rating anxiety scale (SAS), self-rating depression scale (SDS) score, nursing efficiency, nursing satisfaction were compared between the two groups. Results: The experimental group showed a statistically significant increase in the QLI quality of life scores as compared with the control group ($P < 0.05$); The PSQI quality of sleep score, MSSNS psychological status score, SAS, SDS anxiety, depression scale scores were found to be markedly lower in the experimental group than those observed in the control group, and the difference was proven to be statistically significant ($P < 0.05$); The nursing satisfaction and nursing efficiency were reported at a notably higher rate in the experimental group compared to what were observed in the control group, and the difference indicated a statistical significance ($P < 0.05$). Conclusion: Fine nursing combined with psychological intervention could significantly improve quality of life of patients, improve their psychological state and sleep quality, and help to raise nursing satisfaction and nursing efficiency. Therefore, fine nursing combined with psychological intervention has a higher application value in patients with traumatic eyeball extraction.

Keywords: Fine nursing, psychological intervention, enucleation, quality of life, psychological state, nursing effect

Introduction

Trauma patients are commonly seen in the surgical departments of hospitals, and the cause of trauma is mostly accidental, but there is a diversity of traumatic sites in patients, and enucleation due to ocular trauma is one of the surgical procedures. Patients often experience depression and anxiety after ophthalmectomy, and their quality of life is also affected to some extent [1-3]. The occurrence of negative emotions in patients can not only affect their post-operative recovery, but may also lead to psychological diseases. Most hospital care for patients with trauma-induced eyeball removal is conventional, focusing only on changes in their physiological condition and neglecting their psychological state [4-6]. In order to improve such a nursing status quo, more human-

ized nursing models are widely used. Fine nursing and psychological nursing are nursing modalities that target the whole spectrum of patient psychological and physiological interventions, aiming to facilitate the distance between the patient and the hospital during the nursing process and enable them experience a more humanized nursing management [7-9]. Psychological nursing interventions have been reported to significantly improve the quality of life and psychological state of trauma patients and help enhance their prognostic outcomes. In order to investigate the effect of fine nursing combined with psychological intervention in the postoperative care of patients with trauma-induced eyeball removal, different nursing interventions were performed on patients with trauma-induced eyeball removal, and the nursing efficiency, nursing satisfaction, psychologi-

Table 1. Statistics of general data ($\bar{x} \pm s$)

Group	Experimental group	Control group	X ² /t	P	
Sex (M/F)	21/19	20/20	0.05	0.82	
Age (year)	40.26±6.03	40.48±6.21	0.16	0.87	
Height (cm)	170.06±8.30	170.15±8.19	0.05	0.96	
Weight (kg)	70.35±5.31	70.66±5.90	0.25	0.81	
Time to medical care (h)	2.06±0.85	2.33±0.57	1.67	0.10	
Surgical sites	Left	16	15	0.05	0.83
	Right	21	20	0.05	0.82
	Bilateral	3	5	0.56	0.46
Smoking history (Year)	5.39±1.62	5.77±1.57	1.07	0.29	
Alcohol history (Year)	9.96±2.48	9.52±2.63	0.77	0.44	
Hypertension (case)	6	7	0.09	0.76	
Diabetes mellitus (case)	5	6	0.11	0.75	
Hyperlipidemia (case)	1	2	0.35	0.56	

cal state, quality of life and sleep quality under different nursing modes were analyzed in this paper.

Materials and methods

General data

80 patients with eyeball enucleation due to ocular trauma admitted to our hospital from January 2017 to July 2019 were randomly selected and divided into control group and experimental group by coin tossing, with 40 patients in each group. Patients in the experimental group and the control group aged 23-50 years and 25-48 years, respectively. No statistically significant difference in general data such as sex, age, and time to medical care was recorded between the two groups (P > 0.05). The comparison of general data between the two groups is shown in **Table 1**.

Inclusion/exclusion criteria

Inclusion criteria: ① Those who underwent eyeball removal due to trauma; ② Patients aged ≥ 18 years; ③ Willing to participate in the study; ④ This study was approved by the hospital Ethics Committee, and all the patients volunteered to participate in the study and signed an informed consent form.

Exclusion criteria: ① Patients had coagulation disorder and was taking anticoagulant drugs; ② Patients suffered from hematological diseases; ③ Patients had severe cardiovascular and cerebrovascular diseases recently.

Methods

The patients in the control group received routine nursing model. The nursing staff regularly monitored their postoperative vital signs, recorded the dressing time and wound recovery, paid attention to whether the patients had wound infection and other phenomena, and timely informed the attending physician if there were signs of infection. Ensure at least one ward round daily, monitor their blood pressure daily, monitor fasting

blood glucose in patients with hyperglycemia, and consider insulin therapy if blood glucose failed to be controlled in the normal range in patients with hyperglycemia [10-12].

The patients in the experimental group underwent refined nursing with psychological intervention, and the medical staff developed the corresponding nursing plan according to their personal situation and communicated with the patients themselves or their family, mainly focusing on the parts of the care process that required the patients' or their families' cooperation. The medical staff conducted daily check-ups, and after the surgery, the nursing staff conducted a check-up every 1 h, mainly focusing on the changes of the patients' vital signs, and if there were any abnormalities, they should inform the doctors and carry out the corresponding treatment in time. The nursing staff should pay attention to both the changes of psychological state and physiological recovery of patients. If the patient was found to be depressed, silent, depressed, and irritable, timely communicate with the patient, divert their attention through conversation, so that the patient could maintain a good mentality and actively cooperate with the treatment.

Observation indicators

Quality of life index (QLI) quality of life score [13], PSQI score [14], mental state assessment scale (MSSNS) score [15], self-rating anxiety scale (SAS), self-rating depression scale (SDS) [16] score, nursing efficiency, nursing satisfaction were compared between the two groups.

Table 2. Comparison of QLI quality of life and PSQI sleep quality scores between the two groups ($\bar{x} \pm s$, points)

Group	QLI quality of life	PSQI sleep quality
Experimental group	63.52±9.94	8.82±1.00
Control group	57.06±8.33	12.37±2.14
t	3.15	9.51
P	0.002	< 0.001

QLI score criteria included daily activities, work and life, and interpersonal relationships. The total score of each part was 10 points, where higher score accounted for better quality of life, and vice versa.

The PSQI sleep quality index score ranged from 0 to 21, and higher score indicated poorer sleep quality.

The MSSNS psychological state score was demarcated by 60 points, less than 60 points signified normal condition, 60-70 points signified mild abnormality, and more than 70 points signified abnormal condition.

The SAS anxiety score was demarcated by a score of 50, with less than 50 indicating normal, 50-59 indicating mild anxiety, 60-69 indicating moderate anxiety, and more than 70 indicating severe anxiety.

The SDS depression was scored by 53 points as a reference value, with a score below 53 being normal, 53-62 being mildly depressed, 63-72 being moderately depressed, and over 72 being severely depressed.

It was regarded as significantly effective if the patients recovered well after surgery, no adverse reactions occurred in the nursing process, and the psychological state was good; It was deemed as effective if the patients recovered well after surgery, no adverse reactions occurred but they occasionally experienced irritability and depression; It was considered as ineffective if the patients recovered after operation, adverse reactions occurred, and they were prone to develop adverse mood.

Statistical analyses

The SPSS 20.0 was chosen to deal with study data, and GraphPad Prism7 (GraphPad Soft-

ware, San Diego, USA) was used to picture this data. Items included in the study are enumeration data and measurement data. The measurement data were represented as ($\bar{x} \pm s$), and analyzed by t-test. The enumeration data were represented as [n (%)], and analyzed by χ^2 test. A p-value < 0.05 was thought to have a statistically significant difference.

Results

Comparison of QLI quality of life and PSQI sleep quality scores between the two groups

The postoperative quality of life and sleep quality of the two groups were scored, and the results of QLI quality of life and PSQI sleep quality scores were compared between the two groups. The results showed that the experimental group had remarkably higher QLI quality of life score than the control group, and the difference was shown to have statistical significance (P < 0.05). Moreover, the experimental group had markedly lower score of PSQI sleep quality than the control group, and the difference was proven to have statistical significance (P < 0.05). These results showed that fine nursing combined with psychological intervention could significantly upgrade the quality of life of patients and contributed to greatly improve their sleep quality, so that patients could maintain a relatively good mental status during rehabilitation. See **Table 2**.

Comparison of MSSNS psychological state scores between the two groups

Patients with trauma-induced enucleation may not be able to accept their injury for a while and thus experienced more pronounced negative mentality, and certain patients may experience depression, anxiety, and even thoughts of suicide. Therefore, psychological intervention aimed to alleviate the adverse emotions of patients. In this study, the MSSNS psychological state score was tested in both groups. The comparison of test results showed that patients in the experimental group had markedly lower MSSNS psychological state score than those in the control group. MSSNS scores were dominated by low scores, indicating that fine nursing combined with psychological intervention was shown to significantly improve

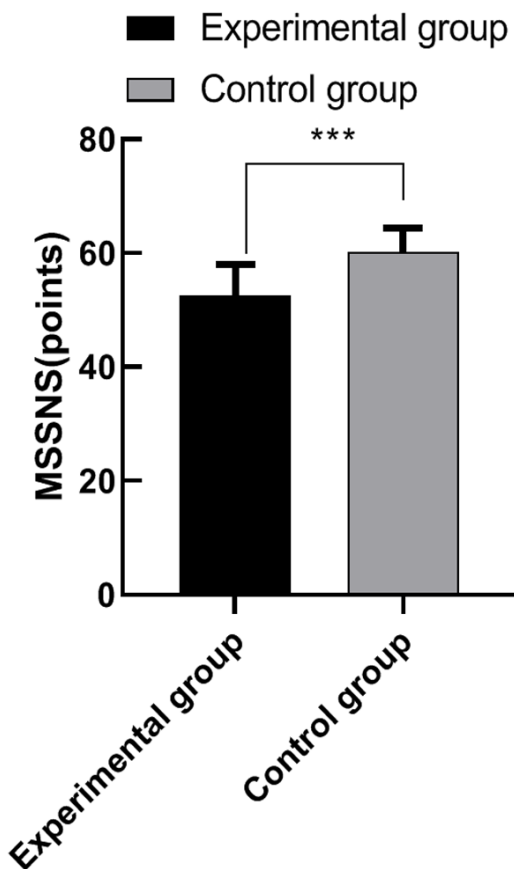


Figure 1. Comparison of MSSNS psychological state scores between the two groups. Notes: The abscissa indicates the experimental group and the control group from left to right, and the ordinate indicates the MSSNS psychological state score. Comparison of MSSNS psychological state score between the experimental group [(52.64±5.18) points] and the control group [(60.33±5.81) points] (t = 6.25, ***P < 0.001).

their psychological status and keep patients with a relatively positive attitude. See **Figure 1**.

Comparison of SAS, SDS anxiety and depression scale scores between the two groups

The comparison of SAS, SDS anxiety and depression scale scores between the two groups showed that the SAS, SDS anxiety and depression scale scores were found to be markedly lower in the experimental group than those observed in the control group, and the difference was shown to have statistical significance (P < 0.05). It was proven that fine nursing combined with psychological intervention could significantly improve depression and anxiety in patients. See **Figure 2**.

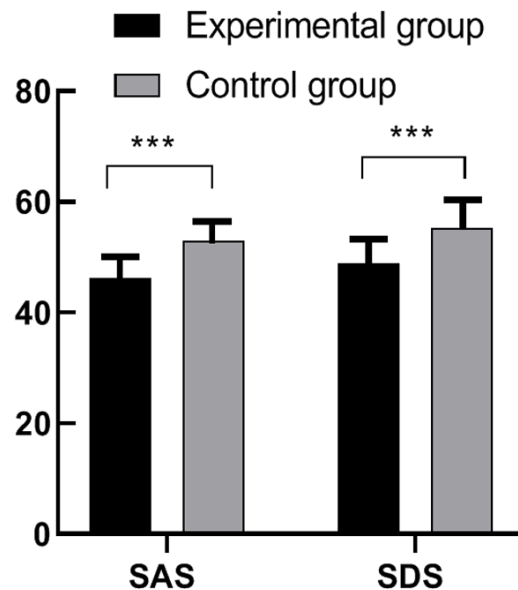


Figure 2. Comparison of SAS, SDS anxiety and depression scale scores between the two groups. Notes: The abscissa indicates the SAS, SDS anxiety and depression scores in the experimental group and the control group from left to right, and the ordinate indicates the scores. Comparison of SAS scores between the experimental group [(46.22±4.02) points] and the control group [(53.10±5.20) points] (t = 6.62, ***P < 0.001). Comparison of SDS scores between the experimental group [(48.89±4.48) points] and the control group [(55.27±5.61) points] (t = 5.62, ***P < 0.001).

Comparison of nursing satisfaction and efficiency between the two groups

As seen from the comparison of the nursing satisfaction and efficiency between the two groups, the nursing satisfaction and efficiency were shown at a notably higher rate in the experimental group compared to what were observed in the control group, and the difference indicated a statistical significance (P < 0.05). It was demonstrated that fine nursing combined with psychological intervention was helpful to increase the nursing efficiency and was highly recognized by patients. See **Tables 3 and 4**.

Discussion

The surgical departments of hospitals are specifically divided into hand, chest, bone, eye, etc., which are determined mainly according to the injury sites of patients during different injuries of trauma [13-15]. In general, the causes

Table 3. Comparison of nursing satisfaction between the two groups

Group	Very satisfied with	Satisfaction	Unsatisfied	Satisfaction rate (%)
Experimental group	21	13	6	85.00%
Control group	11	12	17	57.50%
X ²				7.38
P				0.007

Table 4. Comparison of the nursing efficiency between the two groups

Group	Significant	Effective	Ineffective	Overall effective rate (%)
Experimental group	20	15	5	87.50%
Control group	9	13	18	55.00%
X ²				10.31
P				0.001

of injury in trauma are often accidents or fights, and accidents may also include traffic accidents, accidental falls, etc., which may cause more serious trauma. Ocular trauma is not an uncommon surgical injury. Because the ocular skin is relatively thin and the eyeball is fragile, ocular trauma is often accompanied by eyeball injury, and severe eyeball injury requires ophthalmectomy [16, 17]. Most patients who undergo ophthalmectomy are reluctant to accept their injury, resulting in emotional collapse, depression and other emotions, and patients with poor psychological quality may also experience the idea of suicide. Patients with long-term negative emotions are prone to form psychological diseases. At present, the hospital performs the routine nursing model for the patients with enucleation caused by ocular trauma, namely, to control the patient's condition and detect their vital signs. Such nursing model ignores the patient's psychological state, thus increasing the risk of psychological diseases. Refined care is a more meticulous and comprehensive care model than the conventional care model, which increases the time spent by nursing staff with patients to a certain extent and is more convenient for nursing staff to understand the specific circumstances of patients [18, 19]. Psychological intervention is a way to increase psychological nursing on the basis of the original nursing model. Studies have reported that fine nursing combined with psychological intervention can significantly increase the nursing efficiency and improve the psychological state of patients. In this study, patients with enucle-

ation caused by ocular trauma were studied, and different nursing models were used for different groups of patients as follows: patients in the control group received routine nursing, and patients in the experimental group received refined nursing with psychological intervention. The psychological state and quality of life of the patients were compared to analyze the effect of refined nursing combined with psychological intervention.

The results indicated that the nursing satisfaction and efficiency were shown at a notably higher rate in the experimental group compared to what were observed in the control group, and the difference indicated a statistical significance ($P < 0.05$). Since the nursing efficiency is related to the occurrence of adverse reactions during nursing and psychological state, the results showed that fine nursing combined with psychological intervention can greatly reduce the incidence of adverse reactions in patients with enucleation caused by ocular trauma, and can significantly improve their psychological state. It echoed the conclusion that MSSNS psychological state score, SAS and SDS scores in the experimental group in this study were significantly lower compared with the control group, and the results were statistically significant ($P < 0.05$). Moreover, the experimental group had markedly higher scores of QLI quality of life and PSQI sleep quality than the control group, and the difference was proven to have statistical significance ($P < 0.05$). Fine nursing combined with psychological intervention exhibited a better effect on improving the quality of life and sleep quality of patients. Feng et al. [20] has pointed out that fine nursing is shown to significantly improve the nursing satisfaction and nursing efficiency after ophthalmic surgery, and remarkably reduce the incidence of adverse reactions and VAS pain score. This conclusion was consistent with the study conclusion and fully demonstrated the scientific reliability of the study results. The limitation of this study is that small number of people was included in

this trial, and long-term follow-up was lacking, which may be addressed in further studies.

To sum up, fine nursing combined with psychological intervention is indicated to significantly upgrade quality of life of patients, improve their psychological state and sleep quality, and help to increase nursing satisfaction and nursing efficiency. Therefore, fine nursing combined with psychological intervention has a higher application value and a better effect in patients with traumatic eyeball extraction.

Disclosure of conflict of interest

None.

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