

Influence of Psychological Intervention before Emergent Ocular Trauma Surgery on Patients' Negative Emotions

Hairong Zhang, Jiehui Huang, Chongde Long*

State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou 510060, China

Abstract

Purpose: To investigate the effect of preoperative psychological intervention on alleviating negative emotions in patients undergoing emergent ocular trauma surgery.

Methods: A total of 100 patients undergoing emergent ocular trauma surgery were selected using convenience sampling and randomly divided into control ($n=49$) and experimental ($n=51$) groups. Patients in the control group received conventional nursing and their counterparts in the observation group were treated with individualized psychological interventions including psychological support, relaxation training, and humanistic care based on conventional nursing care. Self-rating anxiety scale (SAS), self-rating depression scale (SDS), and fear visual analog scale (FVAS) scores were statistically compared between the two groups.

Results: The scores of SAS, SDS, and FAVS were significantly lower in the experimental group than in the control group (all $P<0.001$).

Conclusion: Comprehensive psychological intervention effectively eliminates negative emotions in patients undergoing emergent ocular trauma surgery and accelerates their physical and mental recovery. (*Eye Science 2014; 29:74-77*)

Keywords: ocular trauma; emergent surgery; psychological intervention

In China, the annual incidence of ocular trauma ranges from 10 to 12 million cases and accounts for approximately 16-35% of all hospitalized patients in ophthalmic hospitals. Ocular trauma is equally the main reason causing unilateral blindness¹. Timely and effective surgery is the most common treatment for ocular trauma; however, emergent eye surgery is

mainly performed for sudden and accidental events without any period for psychological adaptation.

Most patients present with negative emotions, such as pain, anxiety, hesitation, depression, and annoyance, *etc.* Previous studies indicated that negative emotions could cause physiological and psychological stress, influence neuroendocrine and circulation systems, and directly affect surgical anesthesia and efficacy, postoperative recovery, and patients' subjective feelings^{2,3}. Considering the acute and accidental severity of ocular diseases, physicians and nurses tend to focus only on the emergent treatment of injured eyes and ignore needed psychological guidance and instructions, and even preoperative visits. Consequently, patients remain unfamiliar with the surgical procedures and are likely to experience negative emotions. The aim of the present study was to investigate the effects of psychological intervention on patients' negative emotions by conducting a comparative clinical trial between patients receiving preoperative psychological intervention combined with conventional nursing and their counterparts who received conventional nursing only.

Materials and methods

Clinical information

The study included 465 ocular trauma patients admitted to the operating room of Zhongshan Ophthalmic Center, Sun Yat-sen University between January and June 2013. Inclusion criteria were the following: 1. Aged ≥ 16 years old, education level above junior middle school. The subjects needed to be conscious and able to hear, speak, read and write, and cooperate with eye examinations and relevant surveys. 2. Patients and their family relatives were voluntarily engaged in this study. Informed

consent was obtained from all participants. Among the 465 study subjects, 153 cases aged below 16 years, 180 who refused the survey, and 32 who were unable to complete the survey due to severe traumatic pain were excluded from this clinical trial. Ultimately, 100 eligible patients were included. All enrolled patients were randomly assigned to the control and experimental groups. The age distribution of the enrolled patients is shown in Table 1 and the type of ocular injury is illustrated in Table 2.

Table 1 Comparison of age distribution between the control and psychological intervention groups

Group	Age			Total
	< 35 years	36–50 years	> 50 years	
Control group	10	25	14	49
Experimental group	16	22	13	51
Total	26	47	27	100

$\chi^2=1.574, P=0.455$

Table 2 Comparison of patients' eye injury between the control and psychological intervention groups

Group	Eye injury			Total
	< 35 years	36–50 years	> 50 years	
Control group	20	18	11	49
Experimental group	23	13	15	51
Total	43	31	26	100

$\chi^2=1.592, P=0.451$

Note: eyeball injury is defined as an open wound in the eyeball; ocular adnexa injury denotes merely ocular adnexa injury but no open injury in the eyeball; combined injury is defined as an open wound in both the ocular adnexa and the eyeball.

Study methods

In the control group, patients were transferred to the operating room and were evaluated by SAS, SDS, and FAVS prior to surgery, according to the routine procedures for ocular surgery at the hospital.

In the experimental group, the patients underwent the conventional preparation for eye surgery, but were supplemented with psychological intervention such as correct evaluation of each patient's psychological status, offering psychological and emotional support, and instructing the patients to undergo relaxation training.

Psychological intervention was performed by the

following methods. 1. Appointed nurses were responsible for accommodating patients, talking with them, answering their questions, and offering individualized psychological nursing. 2. Nurses delivered emotional support to patients, offered an explicit and patient explanation of the necessity and significance of the surgery, and selectively informed the patients of the severity of diseases and prognosis to bolster each patient's confidence. 3. For relaxation training, the nurses instructed the patients to breathe deeply while listening to relaxing music. Relaxation and imagination approaches were utilized.

Statistical analysis

A SAS score >53 indicated the symptom of anxiety, an SDS score >53 suggested the symptom of depression, and a FAVS >3 indicated the presence of fear symptoms. Measurement data were expressed as means ± standard deviation. Enumeration data were represented as percentages. Group comparison was conducted using *t*-test and *chi*-square test. A value of *P*<0.05 was considered as statistically significant.

Results

No statistically significant difference was observed between the two groups regarding age distribution ($\chi^2=1.574, P=0.455$), as shown in Table 1. According to the site and severity of ocular injuries, all patients were categorized into eyeball injury, ocular adnexa, or combined injury. A detailed distribution of different types of injuries is illustrated in Table 2. No statistically significant difference was observed between two groups in terms of the severity of eye damage ($\chi^2=1.592, P=0.451$).

Comparison of SAS, SDS, and PVAS scores between the two groups is shown in Table 3. SAS, SDS, and FAVS scores were significantly lower in the experimental group than in the control group (all *P*<0.001).

Table 3 Comparison of SAS, SDS, and PVAS scores between the control and psychological intervention groups

Group	SAS	SDS	PVAS score
Control group	65.4±13.9	62.2±11.5	3.2±1.1
Experimental group	49±11.7	39.5±8.9	1.8±0.7
	<i>t</i> =8.051	<i>t</i> =11.062	<i>t</i> =7.415
	<i>P</i> <0.001	<i>P</i> <0.001	<i>P</i> <0.001

Discussion

Patients with ocular trauma are constantly threatened with a decline in visual acuity, blindness, facial abnormality, and ocular movement disorders, *etc.* Patients have to tolerate substantial psychological pressures and often present with anxiety, fears, depression, and other negative emotions. In most cases, injured patients have no period for mental adaptation. In addition, most patients with ocular trauma are workers and farmers and are the main support of the family livelihood. Thus, surgical efficacy directly affects the fate of the family³. These patients are therefore eager to understand their clinical prognosis, but this absolutely causes anxiety and depression instead.

Alleviation of the tissue injury caused by the accidental trauma requires that emergent surgery be immediately performed under most circumstances, which is definitely another stressful event for these patients. Consequently, patients are likely to show intensely negative emotions during the early stages after being injured and in the preoperative period³. Previous studies indicated that negative emotions could cause physiological and psychological stress, influence the neuroendocrine and circulation systems, and directly affect surgical anesthesia and efficacy and postoperative recovery, and lead to a series of adverse events that could influence the patient's prognosis^{2,3,5}.

Preoperative understanding of the prognosis has been demonstrated to ease the level of psychological stress, whereas psychological intervention can effectively eliminate the patient's negative emotions, which has benefits for improving the surgical efficacy. The patients with ocular trauma requiring emergent surgery need greater mutual understanding and nursing care when compared with their counterparts with eye diseases. The nurses need to understand the reasons for the accidental injury, analyze the psychological status of patients, offer accurate disease-related information, enhance patients' understanding of ocular trauma, reduce their uncertainty, improve their emotions, and obtain mutual trust. The nurses should also accurately evaluate the response ability of patients, provide information related to the sever-

ity of diseases and prognosis, and deliver target-oriented psychological counseling through preoperative conversations.

In this study, the nurses attempted to talk with the patients and patiently explain the necessity and importance of the surgery. They selectively notified the patients about the severity of diseases and clinical prognosis, aiming to establish patients' confidence and alleviate their negative emotions as much as possible. Relaxation training was effective at alleviating the anxiety and pain during the perioperative period⁷. In this clinical trial, the nurses not only understood the patients' psychological status, but they also instructed the patients to perform relaxation training by using deep breathing and imagination methods. Comparison of SAS, SDS, and FAVS scores indicated that patients with ocular trauma undergoing emergent surgery showed negative emotions to varying degrees. After preoperative psychological intervention, the patients were able to accept the reality of their situations and their negative emotions were significantly eased. These patients showed a positive attitude toward the surgery and actively cooperated with the physicians and nurses. In the experimental group, two patients were initially severely depressed, not talkative, sleepless, and failed to cooperate with the treatment. After psychological intervention, they actively expressed their feelings of pain, performed relaxation training as the nurses instructed, and their negative emotions were significantly alleviated.

The results of this study indicated that preoperative psychological intervention could ease negative emotions and contribute to the success of operations in patients with ocular trauma. By utilizing the theory and technique of psychology and language and behavioral design, the nurses could positively improve patients' psychology and behavior, ease negative emotions, and enhance their patients' adaptation ability, thereby contributing to surgical success. Future studies will focus on the effects of psychological intervention on surgical outcomes and postoperative recovery.

References

- 1 Hu JG, Lou X. The epidemiological characteristic analysis of 4552 cases of occupational ocular trauma. *Public Health*

- and Preventive Medicine, 2005, 16: 75–76.
- 2 Li HX. Perioperative period psychological nursing to surgical patient. *Nursing Research*, 2009, 23(1): 162.
 - 3 Wu R. Clinical therapy and reason analysis of 210 cases with ocular trauma. *China Medical herald*, 2009, 6 (25): 143.
 - 4 Wang XD. Rating scales in mental health (revised edition). Beijing: People's Medical Publishing House, 1999: 75–225.
 - 5 Zhao Q, Liu H. Retrospective clinical analysis of ocular trauma in patients. *International Eye Science*, 2013, 13(9): 1915–1918.
 - 6 Zhao BB, Zhou YQ, Wang YL, et al. Effect of early psychological interventions on negative emotions and immune function in traffic accident wounded. *Chinese Journal of Nursing*, 2013, 48(10): 920–923.
 - 7 Zhu Y, Liu XX, Chen J, et al. Perioperative rehabilitation efficiency of relaxation training for patients with lung cancer. *Chinese Journal of Nursing*, 2013, 48(5): 465–467.