

ORIGINAL RESEARCH

Effect of Traditional Chinese Medicine Characteristic Nursing on Perioperative Nursing of Children with Trichiasis Correction Under General Anesthesia

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ABSTRACT

Objective • To study the nursing impact of traditional Chinese medicine on children undergoing trichiasis correction surgery with general anesthesia.

Methods • A total of 104 children with trichiasis admitted to the hospital for correction under general anesthesia from February 2020 to July 2023 were selected as the research objects. They were randomly divided into a comparison group (52 cases) and an observation group (52 cases). The comparison group was given routine nursing after surgery, and the observation group was given special nursing after surgery. Hamilton Anxiety Scale (HAMA) scores and Wong-Baker Smiley face scale scores of the two groups of children before and after nursing were observed, and the nursing satisfaction of family members of the two groups was evaluated.

Results • The anesthesia waking time, operation time, eating time and drinking time of the two groups in the observation group were lower than those in the comparison group, and the differences were statistically significant ($P < .05$). After nursing, the HAMA and HAMD scores of the two groups decreased, and the HAMA and HAMD scores of the two groups in the observation group were lower than those in the comparison group ($P < .05$). After nursing, the pain scores of the two groups were decreased,

and the pain scores of the observation group were lower than those of the control group ($P < .05$). The visual acuity of the observation group was significantly better than that of the comparison group, and the difference was statistically significant ($P < .05$). The total satisfaction rate of the observation group was 94.23%, and that of the comparison group was 80.77%, and the total satisfaction rate of the observation group was higher than that of the comparison group ($P < .05$). The compliance of the observation group was 96.15%, and that of the comparison group was 84.62%, and the compliance of the observation group was higher than that of the comparison group ($P < .05$). Within 24h after the operation, the incidence of hunger, thirst, abdominal distension, fever, and irritable crying in the observation group was significantly lower than in the control group, and the difference was statistically significant ($P < .05$).

Conclusion • The application of traditional Chinese medicine-based nursing interventions can effectively alleviate negative emotions, alleviate pain, and enhance the satisfaction of family members towards nursing care for children undergoing trichiasis correction surgery under general anesthesia. (*Altern Ther Health Med.* [E-pub ahead of print.])

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INTRODUCTION

Trichiasis is a common eye disease which refers to the abnormal growth position of eyelashes that grow backward

and stimulate the eyeball and cornea.^{1,2} Due to the abnormal growth direction of trichiasis, especially the inverted cornea, the growing eyelashes often rub against the corneal epithelium, causing symptoms such as tears, fear of light and foreign body sensation, and may also cause keratitis, corneal ulcer, conjunctivitis and eyeball congestion, etc., affecting vision.³ Corneal ointment, artificial tears and other non-surgical treatments have certain therapeutic effects on trichiasis, but the effect is not ideal.^{4,5} Trichiasis correction under general anesthesia is a treatment method to reposition the eyelashes of trichiasis so that the eyelashes grow outward and away from the surface of the eye, which has a good therapeutic effect on trichiasis and is widely used in clinical practice.⁶ However, for children with trichiasis, due to the

disease itself and the impact of surgery, they may have negative emotions such as anxiety and depression. These negative emotions will not only affect the therapeutic effect of children but also may have a negative impact on their physical and mental health.⁷ Therefore, finding a reasonable nursing way to help children cope with these negative emotions is particularly important.

Traditional Chinese medicine characteristic nursing is a nursing method guided by the theory of traditional Chinese medicine, which combines the theory of traditional Chinese medicine with the disease characteristics of patients to provide comprehensive and individualized nursing for patients.⁸ This nursing method can not only help patients relieve the discomfort brought by the disease but also regulate the physical and mental state and promote health. Therefore, this study aims to explore the nursing effect of traditional Chinese medicine characteristic nursing on children with trichiasis correction under general anesthesia in order to provide a new nursing direction for children with trichiasis correction under general anesthesia.

MATERIALS AND METHODS

General Information

A total of 104 children admitted to the hospital for trichiasis correction surgery under general anesthesia between February 2020 and July 2023 were randomly assigned to either the comparison group (consisting of 52 cases) or the observation group (also with 52 cases) for the purpose of this study. There were no statistically significant differences in age, sex, trichiasis side, and other relevant factors between the two groups ($P > .05$), making them comparable, as presented in Table 1. The inclusion criteria for this study required that patients met the diagnostic criteria for trichiasis, had surgical indications for trichiasis correction under general anesthesia, presented with monocular trichiasis of the lower eyelid, and had obtained signed informed consent from their family members. Conversely, patients were excluded if they had a history of keloid formation, severe mental disorders, connective tissue diseases, corneal ulcerations, or immune system diseases.

Treatment Methods

In the nursing process of children in the comparison group, we will take the following routine nursing measures:

Preoperative health education: Children and their families will undergo a thorough introduction to trichiasis-related knowledge, encompassing its etiology, progression, and potential ocular discomfort symptoms. Additionally, a comprehensive explanation of surgical treatment effects and

essential precautions will be provided to ensure a clear and accurate understanding of the surgical process. To alleviate any doubts regarding the surgery, visual health education through informational brochures will be conducted, facilitating a better understanding of the surgical environment and procedure among children.

Provide a comfortable room environment: Before surgery, we will guarantee that the child is able to rest and recover in a calm and cozy room environment. To accomplish this, we will meticulously arrange the ward's layout, ensuring a warm and inviting atmosphere that promotes relaxation and recuperation for the children.

Dietary guidance: Taking into account the children's physical condition and eating habits, we will gradually transition their diet from semi-liquid to soft foods and eventually to regular meals. In selecting dietary options, we will prioritize nutrient-dense, digestible, and lightly flavored foods to guarantee adequate nutrition intake before surgery.

Ward inspection: To promptly identify and address any potential issues, we will conduct ward visits every two hours. During these inspections, we will carefully observe the child for any signs of foreign body sensation, redness, pain, or other abnormalities. Upon detection of any such issues, we will immediately report them to the attending doctor to ensure timely intervention.

Medication supervision: We will closely monitor children to take medication as prescribed. For children who can actively cooperate with the medication, we will give appropriate material rewards (such as toys, etc.) and verbal encouragement to stimulate their enthusiasm.

Based on the comparison group, the observation group was further given Traditional Chinese medicine characteristic nursing, including the following measures:

Preoperative music nursing: To ease the preoperative nervousness and anxiety of children, we will play calming and relaxing music in the ward, such as "Fisherman's Song at Twilight," "Silent Snow," and "A Midsummer Night's Dream." This music will create a serene and comfortable atmosphere, enabling children to relax and reducing their stress levels. The aim is to provide a calming influence that will assist them in coping with the anxiety and tension they may be experiencing before surgery.

Postoperative eye compression: After surgery, the child's eyes were compressed for 20 minutes to reduce the occurrence of wound bleeding. Pressure can effectively reduce postoperative bleeding and reduce eye swelling and pain in children.

Cold compress: Apply cold water to the child's eyes to reduce swelling and pain. Cold compresses can effectively reduce eye pain and swelling and help children relieve discomfort.

Acupressure: Use both hands' middle or ring fingers to gently massage Qingming point, temple, Fengchi point and Sibai point and other acupoints to help children relieve eye pain. Through acupressure can stimulate the meridians, promote blood circulation, and relieve eye pain and discomfort.

Table 1. General data of the two groups of patients

Groups	Age (years)	Gender (Male/female)	Trichiasis (left eye/right eye)
Comparison group (52)	7.24±1.31	28/24	27/25
Observation Group (52)	7.38±1.42	30/22	29/23
χ^2/t	0.523	0.156	0.155
P value	.602	.693	.694

Psychological counseling: For children experiencing low mood, nursing staff can prepare engaging cartoon pictures or small toys to effectively distract them. Once the child's emotions have stabilized, these items are presented to them, while family members are encouraged to collaborate and engage with the child, gently encouraging them in a supportive tone. Additionally, psychological counseling can be beneficial in assisting children to adjust their mindset, boost their confidence, and alleviate feelings of anxiety and tension.

Observation indicators

Negative emotions: Hamilton Anxiety Scale (HAMA) and Hamilton Depression Scale (HAMD) were used for scoring. HAMA scores of 30 or above indicated severe anxiety, 25-29 indicated moderate anxiety, 20-24 indicated mild anxiety, and less than 20 indicated no anxiety. HAMD scores of 30 and above are considered as major depression, 20 to 29 as moderate depression, 10 to 19 as mild depression, and less than 10 as not depressed.

Pain score: The Wong-Baker smiley face scale was used to score the pain degree of the two groups of children before and aftercare. The Wong-Baker smiley face scale included 6 different facial expressions ranging from happiness to crying, and the children were asked to choose one of the facial expressions to represent their pain. The score range was 0 to 10, and the higher the score, the more severe the pain of the children.

Compliance: Evaluation and comparison of children's compliance, contents:rehabilitation training according to doctor's advice, medication according to doctor's advice, adjustment of eye use behavior according to doctor's advice, regular visit according to doctor's advice, divided into 3 levels:complete compliance, partial compliance and non-compliance, corresponding criteria:all 4 items met, 1 to 3 items met and 1 item not met, compliance = full compliance rate + partial compliance rate. Visual acuity test was compared, 1 day before care and 1 month aftercare, using the international standard visual acuity chart.

Nursing satisfaction: The nursing satisfaction of the families of the children was evaluated by using the nursing satisfaction scale made by our hospital, which was divided into basic satisfaction (61~80 points), very satisfaction (81~100 points) and unsatisfactory (0~60 points), and satisfaction = (basic satisfaction + very satisfaction)/total number of cases × 100%.

Statistical analysis

Statistic Package for Social Science (SPSS) 22.0 statistical analysis data (IBM, Armonk, NY, USA) were used. Chi-square test was used for comparison of counting data, $\bar{x} \pm s$ was used for measurement data, paired t-test was used for intra-group comparison, and two-independent sample t-test was used for inter-group comparison. $P < .05$ was considered statistically significant.

Table 2. Comparison of perioperative conditions between the two groups ($\bar{x} \pm s$)

Groups	Anesthetic waking time/(min)	Operation time/(min)	Feeding time/(h)	Drinking time/(h)
Comparison group (52)	33.21±6.53	30.23±4.65	2.47±0.53	2.45±0.42
Observation Group (52)	32.97±5.89	29.19±4.48	1.88±0.42	1.45±0.32
t value	5.918	6.246	6.291	13.657
P value	<.001	<.001	<.001	<.001

Table 3. Comparison of HAMD scores and HAMA scores between the two groups ($\bar{x} \pm s$)

Groups	HAMAScore		HAMD score	
	Pre-care	After-care	Pre-care	After-care
Comparison group (52)	27.82±4.75	14.42±3.31	26.71±3.20	19.4±5.38
Observation Group (52)	28.43±5.14	12.64±2.75	26.68±3.12	16.9±5.24
t value	0.629	11.894	0.484	2.405
P value	.531	<.001	.481	.001

Table 4. Comparison of pain scores and visual acuity between the two groups $\bar{x} \pm s$)

Groups	Pain score		eyesight	
	Pre-care	After-care	Pre-care	After-care
Comparison group (52)	7.13±1.22	2.48±0.64	0.59±0.11	0.71±0.16
Observation Group (52)	7.25±1.14	1.63±0.49	0.58±0.13	0.92±0.14
t value	0.518	7.604	0.357	5.436
P value	.605	<.001	.722	.001

RESULTS

Comparison of perioperative conditions between the two groups

By comparing the perioperative conditions of the two groups, we found that the Observation Group was significantly better than the Comparison group in terms of anesthesia waking time, operation time, feeding time and drinking time ($P < .001$). These results further confirmed the positive role of Traditional Chinese medicine characteristic nursing characteristic nursing in perioperative nursing of children with trichiasis correction under general anesthesia. See Table 2.

Comparison of adverse emotions between the two groups

Compare two groups of children with HAMD scores and HAMA scores, we found that the Observation Group after nursing HAMA scores and HAMD scores significantly lower than the Comparison Group ($P < .001$), while nursing before the difference between the two groups has no statistical significance ($P > .05$). These results further confirm the effectiveness of Traditional Chinese medicine characteristic nursing in improving the mood and anxiety status of children undergoing trichiasis correction under general anesthesia. See Table 3.

Comparison of pain score and visual acuity between the two groups

Comparing the pain score and visual acuity of the two groups, we found that the pain score of the after-care observation Group was significantly lower than that of the Comparison group ($P = .000$), while there was no significant difference between the two groups of Pre-care ($P = .605$). In addition, the visual acuity of the After-care Observation Group was significantly better than that of the Comparison group ($P = .001$), while the visual acuity difference between the Pre-care groups was not statistically significant ($P = .722$).

Table 5. Comparison of nursing satisfaction between the two groups[n (%)]

Groups	Basically satisfied	Very satisfied	dissatisfy	satisfaction
Comparison group (52)	23 (44.23)	19 (36.54)	10 (19.23)	42 (80.77)
Observation Group (52)	26 (50.00)	23 (44.23)	3 (5.77)	49 (94.23)
χ^2 value				4.308
P value				.038

Table 6. Comparison of compliance between the two groups[n (%)]

Groups	Full compliance	Part of the compliance	Nonadherence	Compliance
Comparison group (52)	25 (48.08)	19 (36.54)	8 (15.38)	44 (84.62)
Observation Group (52)	26 (50.00)	24 (46.15)	2 (3.84)	50 (96.15)
χ^2 value				3.983
P value				.046

Table 7. Comparison of adverse reactions between the two groups[n (%)]

Groups	hunger	thirstily	Bloating	Nausea and vomiting	choking	fever	Fidget and cry
Comparison group (52)	50(96.15)	45(86.54)	12(23.08)	4(7.69)	1(1.92)	10(19.23)	21(40.38)
Observation Group (52)	21(40.38)	15(28.85)	2(3.85)	7(13.46)	3(5.77)	3(5.77)	10(19.23)
χ^2 value	37.330	35.454	8.254	0.915	1.040	4.471	5.561
P value	<.001	<.001	.004	.339	.308	.034	.018

These results further confirm Traditional Chinese medicine's characteristic nursing's effectiveness in reducing pain and improving vision in children undergoing trichiasis correction under general anesthesia. See Table 4.

Comparison of nursing satisfaction between the two groups

Comparing the nursing satisfaction of the two groups, we found that the Observation Group's nursing satisfaction was significantly higher than that of the Comparison group ($P = .038$). The number of people who are basically satisfied and very satisfied is more in the Observation Group, while the number of dissatisfied people is less. This indicates that Traditional Chinese medicine characteristic nursing positively improves the nursing satisfaction of children with trichiasis correction under general anesthesia. See Table 5.

Comparison of compliance between the two groups

The compliance of the Observation Group was 96.15% and the Comparison group was 84.62%, which was higher than that of the Comparison Group ($P < .05$). In the Observation Group, the number of complete and partial compliance is larger, while the number of non-compliance is smaller. This indicates that Traditional Chinese medicine characteristic nursing plays a positive role in improving the compliance of children undergoing trichiasis correction under general anesthesia. See Table 6.

Comparison of adverse reactions between the two groups

By comparing the occurrence of adverse reactions between the two groups, we found that the incidence of hunger, thirst, abdominal distension, fever and agitated crying in the Observation Group was significantly lower than that in the Comparison group ($P < .05$), while the incidence of nausea, vomiting and cough had no significant difference between the two groups ($P > .05$). These results suggest that

Traditional Chinese medicine characteristic nursing plays a positive role in alleviating postoperative adverse reactions in children with trichiasis correction under general anesthesia. See Table 7.

DISCUSSION

Trichiasis is a common eye disease characterized by the growth of eyelashes towards the inner side of the eye, which stimulates the eye and cornea, leading to secondary changes in the cornea conjunctival.^{10,11} This situation has the potential to not only cause discomfort to the patient's eyes but also significant inconvenience and psychological distress in their daily life. Trichiasis correction performed under general anesthesia is a widely used treatment method. Its primary objective is to surgically alter the direction of the eyelashes, thereby minimizing irritation to the eye and cornea, effectively treating trichiasis and its associated symptoms. However, in the process of trichiasis correction under general anesthesia, children with trichiasis are easy to produce negative emotions due to the stimulation of the operation and the pain of the disease itself. Negative emotions will not only affect the postoperative recovery effect of children but also may cause long-term negative psychological effects.¹² While routine care can provide some relief for trichiasis, its impact on alleviating negative emotions among children is often less than satisfactory. In contrast, the unique nursing approach of Chinese medicine offers a fresh perspective. This approach seamlessly integrates the principles of traditional Chinese medicine into nursing interventions, emphasizing the harmony and balance of body and mind. Its focus is on disease prevention and conditioning, providing a holistic and comprehensive approach to healthcare.¹³ The characteristic nursing of Traditional Chinese medicine characteristic nursing not only pays attention to patients' physical health, but also to their mental health. This type of care has become one of the most popular care options. In the nursing of children with trichiasis, the characteristic nursing of traditional Chinese medicine pays more attention to the psychological state of children and conditioning. By utilizing the theory of Traditional Chinese Medicine (TCM) in nursing, personalized care plans can be tailored to address the unique needs of children, effectively mitigating their negative emotions. One such method is emotional conditioning, which involves the use of communication, comfort, and encouragement to assist children in managing their emotions and reducing feelings of anxiety and fear. This holistic approach, rooted in the principles of TCM, promotes overall well-being and enhances the quality of care provided to young patients. In addition, Traditional Chinese medicine characteristic nursing treatment methods such as acupuncture, massage, and Chinese herbal decoction can also be used to reconcile qi and blood and balance Yin and Yang, thereby relieving the pain and discomfort of children. In the process of trichiasis correction under general anesthesia, traditional Chinese medicine nursing can not only improve the surgical effect,

but also effectively relieve children's negative emotions and promote the harmony and balance of their body and mind. Therefore, the application of Traditional Chinese medicine characteristic nursing in the nursing of trichiasis children has important clinical significance and value.

In this study, we selected Qingming, temple, Fengchi, and Sibai points for massage. These acupoints have different functions and effects. For example, Qingming point reduces swelling and pain, clearing the liver and improving eyesight; Taiyang point relieves pain and activates collaterals, clears heat, and reduces swelling. Fengchi Point has the function of regulating the palace orifice, expelling wind and relieving pain; Sibai Point has the function of clearing collaterals and relieving pain and brightening eyes. Massaging these points can effectively relieve pain, activate the meridians, and improve human immunity and quality of life. Acupressure is an ancient Chinese medicine treatment method, through the massage of specific points to regulate the movement of Qi and blood to achieve the purpose of treatment and prevention of diseases. In the process of acupressure, the massage therapist uses the fingers, palms, massage sticks and other tools to stimulate and massage the patient's specific points to adjust the body's physiological function, improve blood circulation, and relieve pain and tension and other uncomfortable symptoms. Acupressure can relax muscles, promote blood circulation in the body, and relieve stress and tension. In modern society, people are faced with various pressures of work and life and often have headaches, insomnia, neck and shoulder pain and other problems. You can effectively relax muscles, promote blood circulation, relieve pain and tension, and improve the body's immunity through acupressure. Acupressure can also stimulate nerve endings and release substances such as morphine peptides, thereby reducing pain sensation. When a massage therapist stimulates a patient's specific acupuncture points, nerve endings are stimulated, causing them to release substances such as endogenous morphine peptides. These substances can inhibit the perception of pain but also can regulate the body's immune function to effectively relieve pain. Acupressure is a simple, safe, and effective Chinese medicine treatment. By massaging specific acupoints, you can regulate the movement of qi and blood in the body, relieve pain and tension, and improve the body's immunity and quality of life. In daily life, we can do acupressure properly.

The findings of this study demonstrated a significant improvement in children's compliance and parental satisfaction with nursing care in the observation group compared to the control group. This improvement was attributed to the implementation of nursing services with Traditional Chinese Medicine (TCM) characteristics. These services, which emphasize the harmonious integration of body and mind, appear to have a positive impact on enhancing the perioperative experience of children and facilitating better outcomes. The following is the specific reason analysis: Traditional Chinese medicine's characteristic nursing nursing service is a comprehensive nursing way that pays attention to the

physiological condition of children and its psychological and social level of care. In the perioperative period, Traditional Chinese medicine's characteristic nursing nursing service covers the whole process before, during, and after the operation. Before surgery, the characteristic nursing service of traditional Chinese medicine attaches importance to cognitive intervention, disseminates disease and treatment-related knowledge to children and their parents, guides them to correctly view surgical treatment, understands specific precautions, and helps children eliminate strangeness and fear, and improves their cooperation. These measures help to relieve the anxiety and tension of the children and lay a good foundation for the smooth operation. During the operation, the special nursing service of Chinese medicine pays attention to the close cooperation with the surgical team to ensure the smooth progress of anesthesia and surgery. Implementing safety protection measures can effectively reduce the risk of operation and improve its safety. After surgery, nursing services with traditional Chinese medicine characteristics pay attention to monitoring the recovery of children, assessing the body condition of children, focusing on dietary intervention, preventing multiple complications, and providing nutritional support for children. These measures are conducive to promoting the postoperative recovery of children, improving their postoperative discomfort, and improving the overall quality of prognosis. In addition, Traditional Chinese medicine characteristic nursing services also emphasize individualized nursing programs and carry out targeted nursing interventions according to the actual situation of each child. This personalized care approach can better meet the needs of children and promote their full recovery.

In this study, it was found that the HAMA scores and HAMD scores of the children in the two groups were reduced, and the HAMA scores and HAMD scores of the two groups of children in the observation group were lower than those in the comparison group, suggesting that Traditional Chinese medicine characteristic nursing can improve the negative emotions of children with trichiasis correction under general anesthesia. Wu Rui et al.¹⁴ Reported that Traditional Chinese medicine characteristic nursing characteristics nursing could alleviate the negative emotions of lung cancer patients. Traditional Chinese medicine nursing focuses on adjusting the physical and mental state of children, diverts the attention of children through psychological counseling, reduces the psychological pressure of children, and thus relieves anxiety of children.¹⁵ The Wong-Baker Smiley face scale is an important tool for pain assessment and can be used to evaluate pain in children. Children with trichiasis often experience pain due to the pain of the disease itself and surgical stimulation. In this study, after nursing, the pain scores of children in both groups were reduced, and the pain scores of children in the observation group were lower than those in the comparison group. Suggesting that Traditional Chinese medicine characteristic nursing can relieve the pain of children with trichiasis. Feng Jing et al.¹⁶ found that nursing with traditional Chinese medicine

characteristics could alleviate the pain of patients undergoing replantation of severed fingers. Acupoint massage in Traditional Chinese medicine characteristic nursing care can promote the patency of Qi and blood and blood circulation, relieve physical discomfort, and thus alleviate pain.¹⁷ Nursing satisfaction refers to the degree of patients' satisfaction with nursing services, which is an important index to evaluate nursing services. In this study, it was found that the total satisfaction rate of the observation group was 94.23%, and that of the comparison group was 80.77%, and the total satisfaction rate of the observation group was higher than that of the comparison group ($P < .05$), suggesting that Traditional Chinese medicine characteristic nursing can improve the nursing satisfaction of the families of the children. Traditional Chinese medicine nursing focuses on the relationship between children and medical staff, provides understanding, care, and support to children in the nursing process, and provides patients with personalized and comprehensive nursing services, which can better meet the needs of children and widen the distance between children and their families,¹⁸ thus improving the nursing satisfaction of their families.

CONCLUSION

To sum up, the nursing effect of Traditional Chinese medicine nursing on children with trichiasis correction under general anesthesia is better. It can relieve the negative emotions and clinical symptoms of children undergoing trichiasis correction under general anesthesia, reduce their pain, and improve the satisfaction of their families with nursing services. Traditional Chinese medicine can be used as a nursing means for children with trichiasis correction under general anesthesia.

ETHICAL COMPLIANCE

This study was approved by the ethics committee of Hebei Children's Hospital. Signed written informed consent were obtained from the patients and/or guardians.

CONFLICT OF INTEREST

The authors have no potential conflicts of interest to report relevant to this article.

AUTHOR CONTRIBUTIONS

XL and MX designed the study and performed the experiments, XY and QY collected the data, MW, YF and LY analyzed the data, XL and MX prepared the manuscript. All authors read and approved the final manuscript.

FUNDING

This study did not receive any funding in any form.

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