

## Nursing Intervention to Prevent Complications in Children with Congenital Heart Disease after Operation Vomiting

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**Abstract:** In order to analyze the nursing effect of reducing complications of vomiting after operation in children with congenital heart disease. Ninety children with congenital heart disease admitted and operated in our hospital from January 2013 to December 2014 were selected as the research objects. They were analyzed retrospectively. They were randomly divided into study group (given nursing intervention) and control group (given routine nursing intervention). The incidence of complications and the score of nursing satisfaction of the family members of the two groups were compared. The experimental results showed that the incidence of complications in the study group was lower than that in the control group, and the total satisfaction of the family members was higher than that in the control group, the difference was statistically significant ( $P < 0.05$ ). Moreover, comprehensive nursing intervention after operation for children with congenital heart disease can effectively reduce the incidence of complications and raise nursing satisfaction.

### 1. Introduction

Congenital heart disease (CHD) is a common congenital malformation disease in clinic. It can damage children's cardiopulmonary function, affect patients' breathing and need surgical treatment. [6, 7] With the development of cardiac surgical treatment technology, open heart surgery has become the main means of treatment of congenital heart disease because of its strong visibility and clear effect [8]. However, due to intraoperative anesthesia and intraoperative and postoperative use of vasoactive drugs, 90% of children will vomit, the incidence is high, not only can be complicated with asphyxia, aspiration pneumonia, atelectasis, but also increased the difficulty of treatment, increased hospital days, but also increased the economic and psychological burden for children and their families [9-11].

Hypoxia caused by asphyxia, aspiration pneumonia and atelectasis is also an independent risk factor for postoperative mortality [12]. Therefore, to explore the occurrence of postoperative vomiting in children with congenital heart disease and to give appropriate nursing intervention has become an urgent problem to be solved in the post-operative nursing of children with congenital heart disease. Effective nursing intervention after operation can reduce the incidence of postoperative complications in children with congenital heart disease. To this end, our hospital team has carried out a study on nursing intervention to prevent complications of vomiting in children with congenital heart disease after operation.

In order to analyze the nursing effect of reducing complications of vomiting after operation in children with congenital heart disease. Ninety children with congenital heart disease admitted and operated in our hospital from January 2013 to December 2014 were selected as the research objects. They were analyzed retrospectively. They were randomly divided into study group (given nursing intervention) and control group (given routine nursing intervention). The incidence of complications and the score of nursing satisfaction of the family members of the two groups were compared. The experimental results showed that the incidence of complications in the study group was lower than that in the control group, and the total satisfaction of the family members was higher than that in the

control group, the difference was statistically significant ( $P < 0.05$ ). Moreover, comprehensive nursing intervention after operation for children with congenital heart disease can effectively reduce the incidence of complications and raise nursing satisfaction.

## **2. Materials and methods**

### **2.1 General information**

Ninety children with congenital heart disease admitted and operated in our hospital from January 2013 to December 2014 were selected as the study subjects. Among them, 49 were males and 41 were females, aged 10 months to 12 years, with an average age of  $(5.12 \pm 1.09)$  years. They were randomly divided into study group and control group, 45 cases each. There was no significant difference in general data between the two groups ( $P > 0.05$ ). Ninety cases of children with cardiac malformations were corrected. Including: 24 cases of tetralogy of Fallot, 15 cases of pulmonary atresia, 13 cases of ventricular septal defect repair, 10 cases of total anomalous pulmonary venous drainage, 8 cases of right ventricular double outlet radical surgery, 6 cases of aortic arch constriction + ventricular septal defect correction, 4 cases of aortic arch interruption combined with ventricular septal defect correction, 3 cases of complete transposition of great artery, 3 cases of aortic conduction; There were 3 cases of unclosed tube with atrial septal defect, 2 cases of pulmonary artery sling and 2 cases of complete endocardial cushion defect. Chinese style

### **2.2 Method**

From January 2013 to December 2014, 90 children with congenital heart disease and operation were admitted to the Third Affiliated Hospital of Qiqihar Medical College. The study set the selection criteria and exclusion criteria, and collected the clinical data before, during and after the operation. All the children underwent chest X-ray, echocardiography, spiral CT and fiberoptic bronchoscopy. Effective nursing intervention was given to children with congenital heart disease after operation. The incidence of complications, hospitalization time and prognostic effect were preliminarily analyzed, and relevant data were obtained.

### **2.3 Evaluation Index**

To evaluate the incidence of complications of two groups of children and the scores of nursing satisfaction of their families, a self-made questionnaire was used to investigate the scores of nursing satisfaction of the families of children. The scores were below 60, 60-85 and 85-100 respectively, and the total satisfaction = satisfaction + very satisfaction.

### **2.4 Statistical method**

SPSS 22.0 statistical software was used to process the data. The counting data were expressed as percentage (%) and tested by  $\chi^2$ . The difference was statistically significant with  $P < 0.05$ .

## **3. Nursing intervention**

Routine nursing intervention in the control group and comprehensive nursing intervention in the research group were given as follows:

Nursing evaluation: To assess the general conditions of the children, such as diet, sleep, urine and stool, causes of vomiting, allergic history, etc. Pay attention to the psychological state of the children and the degree of concern of parents for the children. Studies have found that the disease has genetic factors, to understand whether there is a family history of migraine and motion sickness, as well as the past illness of children [3]. Children and parents' understanding and understanding of disease, understanding of disease-related knowledge, and whether they can take targeted nursing measures. To evaluate the corresponding nursing measures for different children.

Basic nursing intervention: Ensure the indoor environment is clean and hygienic, suitable temperature and humidity, control the temperature in the ward 20-22 °C, moderate 40-60%. Pay attention to window ventilation. On the premise of ensuring oxygenation, taking a small amount of

food for several times as the principle, the stomach condition of the children after general anesthesia and surgery has a very slow recovery process.

Nursing care to avoid inducing factors should be given gastrointestinal decompression routinely after entering ICU to avoid the stimulation of gas and gastric juice to the esophagus. In the process of extubation, attention should be paid to the principle of clearing the secretion of the oropharynx before clearing the airway in order to avoid the stimulation of secretion to the larynx.

Nursing during vomiting episode closely observed and accurately recorded the time, frequency, nature and quantity of vomiting, and strictly recorded daily incoming and outgoing volume. The ward room is quiet, clean, ventilated and regularly disinfected by ultraviolet rays. More comfort and companionship reduce fear [4]. When vomiting, help the child sit up or head to one side to avoid aspiration. After vomiting, help gargle, remove vomit in time, and keep the bed clean and comfortable. Pay attention to oral cleaning, regular oral care, so as to remove odor and increase comfort and appetite. If you can eat, it is advisable to eat a small number of meals, with light digestible high nutrition, high vitamin food as the main, moderate temperature, avoid too sweet, too hard, stimulating food, appropriate water supplement. Don't lie down immediately after eating, in order to avoid food reflux mouth, causing nausea and vomiting. TCM ear sticker combined with acupuncture can be used to prevent nausea and vomiting. Treatment should be carried out centrally to avoid disturbing children's rest.

Closely observe the patient's tolerance to wound pain, and timely follow the doctor's advice to apply pain-killing drugs to alleviate the external stimulation of wound pain to the child.

For children with fear of vomiting, preoperative visits were conducted to understand their preferences and distract their attention so as to prevent the occurrence of vomiting again.

Nursing children with medication need intravenous rehydration during the attack period, and appropriate use of antiemetic and sedative drugs. Because of long-term vomiting and inability to eat, children generally have more infusion and a long time. In addition, children tend to be nervous and agitated during infusion, and their posture changes frequently during vomiting.

It will bring discomfort to children. More consideration should be given to the children's feelings, explanation before operation, more comfort, frequent visits during infusion, communication with the children, understanding the condition and gaining trust, so that the children can get psychological satisfaction and security, and reduce discomfort. The use of antiemetic sedatives should observe whether adverse reactions occur, find problems in time and inform the doctor to deal with them. Triple drug therapy was used in remission stage, and long-term preventive treatment was continued. In view of the long-term treatment of children with triple drugs, do a good job of propaganda and education to parents, introduce the method of medication in detail, observe the reaction of children after medication, pay attention to the accuracy of the time and dose of medication, and instruct timely review after discharge, if there is any discomfort, timely consultation.

Psychological nursing intervention carefully pays attention to children's emotional reaction in nursing work, understands psychological problems and gives them psychological comfort. Let the children talk about their troubles and unhappiness, release their bad emotions, so that the depression can be alleviated. Create conditions for children to contact with children of the same age, or read, do manual work, etc., in order to regulate emotions and distract attention. By diverting attention from adverse stimulus events, we can get rid of sadness and tension. Through music therapy, children can relax their spirit and mood, guide them to listen to music, and choose quiet and slow music with slow melody and low frequency, which can effectively alleviate non-musical symptoms [6].

Adverse reactions and anxiety. Communicate with parents more, explain the importance of psychological factors in the treatment of diseases, so that parents can give children more family warmth, guide parents to identify children's emotional fluctuations in time, take effective psychological counseling, so that children maintain a good mental state.

#### 4. Experimental results

Comparing the incidence of complications between the two groups, 4 cases (8.89%) occurred in the study group and 20 cases (44.44%) in the control group. The incidence of complications in the study group was significantly lower than that in the control group ( $P < 0.05$ ).

Comparisons of nursing satisfaction scores between two groups of children's family members is shown in the table 1. The total satisfaction rate of family members in the study group was 97.78% higher than that in the control group (77.78%,  $P < 0.05$ ). As we can see in the Table 1.

Table.1. Comparisons of nursing satisfaction scores between two groups of children's family members

project	number	Very satisfied (%)	Basic satisfaction (%)	Dissatisfied (%)	Overall Satisfaction (%)
Research group	45	31(68.89)	13(28.89)	1(2.22)	97.78
Comparison group	45	5(11.11)	30(66.67)	10(22.22)	77.88

Nursing intervention can reduce the occurrence of asphyxia, aspiration pneumonia and atelectasis, which is conducive to the successful completion of treatment and early recovery of children. After clinical nursing, it was found that vomiting in children with congenital heart disease after operation was related to such factors as anesthesia, application of vasoactive drugs, stimulation of sputum suction, postoperative analgesia and ion disturbance. To find out the nursing methods that can reduce the incidence of vomiting after extubation and vomiting after eating, and effectively prevent the occurrence of complications, we selected children hospitalized in our hospital who were diagnosed as congenital heart disease and were operated under direct vision as the research object. The incidence of vomiting after operation is 92%. According to the analysis of these vomiting children, the incidence of vomiting after extubation is 34%. The incidence of vomiting after eating is 58%. Although some nursing measures have been taken for vomiting, 9% of the children still suffer from pneumonia and atelectasis.

#### 5. Conclusion

In this study, the control group was given routine nursing intervention and the research group was given comprehensive nursing intervention. The results showed that the incidence of complications was 8.89% in the study group and 44.44% in the control group. The incidence of complications in the study group was significantly lower than that in the control group ( $P < 0.05$ ). The total nursing satisfaction of the family members of the study group was 97.78%, and that of the control group was 77.78%. The total satisfaction of the control group was lower than that of the study group, and the difference was statistically significant ( $P < 0.05$ ). It is suggested that effective nursing intervention can effectively improve the quality of nursing care for children undergoing congenital heart surgery and reduce the occurrence of complications.

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