

Application and experience of intravenous indwelling needle in pediatric nursing

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Keywords: intravenous indwelling needle; pediatrics; quality of care

Abstract: Objective: To discuss the nursing measures and value significance of children with intravenous indwelling needles. Methods: A total of 118 children with intravenous indwelling needles were admitted to our hospital from March 2017 to March 1818. A total of 59 patients were randomly divided into the control group (conventional nursing) and the research group (enhanced intravenous indwelling needle care). Intervene in the outcome. Results: The nursing quality score of the study group was higher than that of the control group, $P < 0.05$. The complication rate of the study group (3.39%) was lower than that of the control group (13.56%), $P < 0.05$, $P < 0.05$. The nursing satisfaction of the control group (77.97%) was lower than that of the study group (94.92%), and the difference between the groups was obvious. $P < 0.05$ Conclusion: Intravenous indwelling needle nursing can reduce the complication rate such as phlebitis, improve the nursing treatment and medical level, and it is worthy of clinical Application promotion.

1. Introduction

Intravenous indwelling needle operation can reduce the pain caused by repeated puncture and reduce the workload of nursing. However, due to various factors, complications such as fluid extravasation and phlebitis are prone to affect the physical and mental health of the child, which is not conducive to the modernization of the hospital; In this regard, strengthening the care related to indwelling needles is of great significance to ensure overall efficacy. At the same time, higher requirements are put forward for the professional level of nursing staff, and systematic training is needed to ensure that it implements humanized and quality nursing work.

2. Data and methods

2.1 General Information

118 children with intravenous indwelling needles were used as experimental subjects. The physical indicators of the children were normal, and those with incomplete clinical data and special cases were excluded. There were 59 randomized groups, and the control group averaged 3.3 ± 1.2 years old; 30 males and 29 females. The mean age of the study group was 3.5 ± 1.6 years; 31 males and 28 females. Baseline data were not significantly different, $P > 0.05$.

2.2 Method

During the treatment period, the two groups of children received normal meals to ensure adequate rest and reduce adverse stimuli such as noise and glare. The control group was given routine care, and the study group was treated with intravenous indwelling needles. The methods are as follows: First, Health education: Before indwelling the needle, strengthen the operation explanation, inform the parents of the meaning of the operation, improve the parents' awareness, master the basic nursing measures, and improve cooperation. degree. In the activities of children, strengthen the protection of indwelling needles to ensure that the puncture site is dry and clean, and to prevent contamination. Second, Select the indwelling needle: Ensure that the drip rate is stable, use a short indwelling needle to avoid mechanical friction and strengthen vascular protection. Third, Select the puncture site: evaluate the local vein condition, choose the thick and short vein, it is not recommended to puncture the joint active site, or the blood circulation difference vein. Strict aseptic operation and skilled tube placement. Forth, fixed indwelling needle: fixed elastic

tightness, choose transparent dressing, and fixed with breathable tape. Strengthen the observation of the skin around the puncture site, and report abnormalities such as redness and swelling in time to prevent serious complications. Fifth, Infusion care: Infusion therapy, strengthen the smoothness of the infusion and the skin condition of the puncture site, encourage the child to complain of discomfort, and do a good job in psychological nursing and health education. Sixth, Skin care: During the hospitalization period, the children implement the bedside handover system, strengthen daily inspections, and implement the three-check seven-pair system. The scope of disinfection of the skin should exceed the area of the transparent excipients, and observe whether there are exudates and redness at the puncture site. Observe the skin for allergies and flushing, and place a sterile cotton ball under the needle to prevent excessive compression of the skin. Seventh, closed tube: After the infusion, the tube is sealed with heparin sodium salt, or the saline is sealed with normal saline, and the adjustment clip is closed to prevent air embolism. The sealing fluid is now ready for use, and the syringe is personally manufactured to prevent cross-contamination. After the infusion is not smooth, the cause should be identified in time, there is a situation in which the needle tube is compressed or twisted, and the salt water is dredged in time to avoid forced bolus injection. Eighth, needle retention time: reasonable control of the time of the needle retention, usually not more than 3d, to prevent the compression of the needle or skin damage or infection.

2.3 Observation indicators

Understand the quality of care and record complications. A satisfaction survey form is issued to the family, and the percentage system is adopted. The score is over 90 points, the satisfaction is 60-90 points, and the score is less than 75 points.

2.4 Statistical methods

Data analysis was performed using spss17.0 software, and statistical differences were reflected by $P < 0.05$.

3. Results

3.1 Quality of care score

The nursing quality score of the study group was higher than that of the control group, $P < 0.05$; as shown in Table 1;

Table 1 Comparison of nursing quality scores ($\pm s$, minutes)

Group	n	Puncture technique	Infusion	health education
Control group	59	85.33 \pm 3.25	85.12 \pm 3.85	85.24 \pm 2.54
research group	59	94.25 \pm 2.36	93.62 \pm 3.16	94.25 \pm 2.85
t		15.501	20.434	25.751
P		0.000	0.000	0.000

3.2 Complications

The complication rate of the study group was lower than that of the control group, $P < 0.05$; as shown in Table 2;

Table 2 complication rate comparison (n, %)

Group	n	Skin allergies	infection	Exudate	Phlebitis	Incidence rate
Control group	59	3 (5.08)	3 (5.08)	2 (3.39)	2 (3.39)	13.56
research group	59	1 (1.69)	1 (1.69)	0 (0)	0 (0)	3.39
χ^2						3.933
P						0.047

3.3 Nursing satisfaction

The nursing satisfaction of the control group was lower than that of the study group, and the difference between the groups was significant, $P < 0.05$; as shown in Table 3;

Table 3 Comparison of nursing satisfaction (n,%)

Group	n	Dissatisfied	satisfied	Very satisfied	Satisfaction
Control group	5	13 (22.03)	20 (33.90)	26 (44.07)	77.97
research group	5	3 (5.08)	11 (18.64)	45 (76.27)	94.92
χ^2					7.230
P					0.007

4. Discussion

Intravenous retention of the needle can reduce the pain caused by repeated punctures, especially in children with reduced fear of puncture. It is more conducive to clinical medication, especially for critically ill patients, so as to reduce the workload of nursing. Intravenous needles are widely used in pediatrics, and the application rate is over 90%. However, the comfort and safety of the venous needles have become the focus of parents and medical staff, and have become the standard for successful indwelling needles. An important prerequisite for promotion.

The application principle of intravenous needle placement is reflected in the following aspects: First, as far as possible, no venous valve, abundant blood flow and puncture of thick blood vessels are selected. The second is to use the shortest and smallest model trocar puncture. The third is to operate with a safe puncture tool. The fourth is to grasp the indications of intravenous needle placement, and to operate patients who meet the treatment plan, as well as puncture tools suitable for the disease [1].

The puncture technique of the needle is reflected in the following aspects; First, prepare the puncture for blood vessel selection. The second is to maintain the best psychological state. Third, the disinfection area is larger than the application, and the skin at the puncture site is properly disinfected to prevent the infusion particles from entering the blood vessel. The skin of 7×8cm was disinfected before puncture. The iodine was spirally coated along the inside and outside. After drying, 75% ethanol was applied. After deiodination twice, the needle was punctured by intravenous needle. After the puncture is successfully placed, the skin and the needle are rubbed with 75% ethanol at the puncture site. Rub the 75% ethanol before the needle is removed. On the skin of 6×7cm area, after disinfecting the skin twice, the sterile dressing is covered, and the tape is fixed after the needle is pulled. The fourth is above the puncture point, about 10cm position to stop the blood band. The fifth is to standardize the needle operation: grasp the timing of the fist, and stop the blood band, and become a hollow state of the fist heart. The child does not need to force the fist, reduce the pull of the back skin of the opponent, prevent the compression of the blood vessel, to improve the success rate of the needle, and prevent wear. Broken blood vessels. Sixth, loosening the needle, requiring needle and skin to enter the needle at an angle of about 20°, and feeding the outer cannula into the blood vessel. The movement is required to be gentle. After the needle is successfully inserted, the tourniquet is loosened and the needle core is pulled out. At 7 o'clock, the fixed point is required to be placed without tension, and the auxiliary material is aligned with the puncture point, and the film area is required to be sterile and dry. The tension-free fixation means that it is aligned with the puncture hole, and is pasted to the periphery along the center, and the torn edge is evenly pasted to remove the intermediate gas, and the fixed application is required. At the same time, the tube piercing seat is extended, and it is required to be U-shaped with a tape on the top of the application. Eight is a white isolation plug, it is forbidden to puncture again to prevent the risk of exudation. After the puncture fails, the indwelling needle needs to be replaced. Nine is the

sealing tube operation time, control the sealing tube time and dose, 3-5mL heparin sodium melt, anticoagulation time can be maintained for more than 12h. Heparin sodium melt contraindications, especially when the two infusion times are close, you can choose normal saline. In order to prevent damage caused by local vascular retention, the dose of the sealing solution should be controlled to ensure that the intravascular fluid is washed. The injection rate of the sealing tube should be less than 40mL/min, which reduces the influence on vascular permeability and pressure, thereby reducing the possibility of vasculitis; for this, the standard sealing operation is particularly critical. In addition, control the indwelling time, the indwelling time should be <7d, the best time is 3-5d. Master the contraindications of drugs, combined with drug and medicine, can not exceed 2-3 kinds.

There are many factors affecting the effect of intravenous indwelling needle. The puncture site, the number of punctures, the nature of the liquid, the amount of infusion, the time of indwelling, and the intense activity are all related factors. In particular, high plasma osmotic pressure or microparticle factor will increase the stimulation of platelets, thereby forming agglomeration, aggravating histamine release, and reducing drug dilution, thereby causing an inflammatory reaction. In this regard, it is of great significance to strengthen the quality control of intravenous indwelling needles. In order to reduce the influence of drug factors, vascular factors, physical factors and anatomical factors on the curative effect, several points should be made. First, improve the system of using the indwelling needle and formulate the indwelling needle tracking table. The second is to strengthen the analysis of the causes of extravasation, to understand whether it is occlusive extravasation, or extravasation caused by inflammatory, mechanical and other reasons. Select the blood vessels in the thick and relatively flat parts, and puncture as soon as possible to prevent the pain from repeated puncture and mechanical damage. Apply a non-tensioning paste film and stick it from the center to reduce the air inside the film. Before the infusion, understand the patency of the indwelling needle, first inject the irritating and hypertonic drugs, and then input the non-irritating drugs. Third, after the catheter is blocked, the saline positive pressure pulse-type sealing tube is used to inform the force of the indwelling needle side limb. The fourth is to use the self-adhesive elastic bandage for accidental needle removal and tube removal. The hand and foot puncture points are fixed by the "8" method. The fifth is for phlebitis at the puncture site, and the liquid should be strictly aseptically operated. The hair at the puncture site is removed cleanly, and the scale is cleaned after disinfection. The disinfection area is more than 8cm, and the puncture point is kept clean and dry. The study found that venous indwelling needle complications are related to chemical stimulation and nerve conduction, puncture infection, catheter stimulation, and time of infusion. For this, strengthening preventive care is especially important. The results of this study showed that the complication rate of the study group was lower than that of the control group, and the difference between the groups was obvious, indicating that the preventive nursing intervention was effective and could avoid adverse events such as exudation. The occurrence of complications is the dereliction of duty of the nursing staff and the imperfection of the management system. In this regard, it is of great significance to organize the nursing and nursing personnel to carry out the relevant knowledge and skills training of the intravenous needles, and to change the concept of the duties of the nursing staff to effectively avoid the complications of intravenous indwelling needles [2-3].

The new progress of intravenous needle placement is reflected in the following aspects: First, when the positive pressure connector is pulled, it can avoid blood reflux and blood coagulation and blockage in the official cavity, and prolong the use time of the indwelling needle. Second, the positive pressure joint has no dead space, ensuring accurate drug dosage and rational utilization of drug resources. The third is to prevent phlebitis. The fourth is to stabilize the internal environment, especially those with coagulopathy, to avoid frequent use of anticoagulants. The fifth is to reduce the possibility of nurses being stabbed by sharp objects, simplify the operation process and improve work efficiency. Sixth, the use of one-time investment of positive pressure joints, the efficient use of materials and funds. The results of this study showed that the nursing quality score of the study group was higher than that of the control group, and the difference between the groups was obvious, indicating that the effect of intravenous retention needle care was significant. However, improving

the treatment effect of venous retention needles is more beneficial to the improvement of subjective initiative of nursing staff. In this regard, the hospital should strengthen the training of nursing staff, organize its knowledge and skills related to the study of intravenous needle retention, strengthen the analysis and summary of problems, improve the reward and punishment and assessment mechanism, and promote its implementation of rules and regulations, using the safest and cleanest medical items, The patient provides the most standard standard of care operations to achieve continuous improvement in the quality of care [4-5].

In addition to the standard implementation of the clinical procedures for intravenous retention of needles, prolong the use of indwelling needles, it is also necessary to strengthen the treatment of indwelling intravenous needle adverse events, especially the treatment of phlebitis, including external application of tung oil gypsum, external application of hexasitol and external application of Yunnan Baiyao. . Do a good job of parent interpretation and information consultation services, improve the knowledge of family members' knowledge, so that customers can treat diseases, improve cooperation intensity and satisfaction of nursing, and promote the modernization of pediatrics.

In summary, the clinical operation of the pediatric intravenous indwelling needle puts forward higher requirements for the professional level and professional quality of the nursing staff. In strict accordance with the application principle, it is necessary to strengthen the operation skill of the intravenous indwelling needle while strengthening the operation quality control. This reduces the complication rate and achieves an ever-increasing level of medical services.

Acknowledgement

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