Analysis on the application of prospective nursing management in the prevention of unplanned extubation of trachea intubation in ICU

Bai Nabuqi, Tang Jing*

The First Hospital of Jilin University, Changchun, Jilin, 130021, China

*Corresponding Author

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Abstract: Objective: To analyze the application value of prospective nursing management in the prevention of unplanned extubation of trachea intubation in ICU. **Methods:** 100 patients undergoing ICU endotracheal intubation in our hospital were randomly divided into the control group and the observation group, with 50 cases in each group. The control group received routine nursing management and the observation group received prospective nursing management, combining with the question of ICU endotracheal intubation is not planned extubation alignment between the prevention and management of group, compared two groups of patients in hospitalization Unplanned extubation of tracheal intubation (UEX) insertion loss, catheter displacement, joint swelling, infection (blood clots) odds, compared two groups of patients' satisfaction, contrast nursing overall efficiency. **Results:** The incidence of catheterization shedding, catheterization displacement, catheterization swelling and infection (thrombus) in the observation group was lower than that in the control group, and the effective rate and satisfaction rate of the observation group were higher. There were significant differences in the comparative analysis between the two groups ($P<0.05$). **Conclusion:** ICU tracheal intubation, tube is particularly important to the security, the catheter may be limited by external stimuli and interference, not only affect the input of drugs, at the same time will result in patients with severe psychological stress, work hard to sustain in ICU series, even become a source of conflict in the nurses and patients, to prevent unscheduled extubation, endotracheal intubation, be to maintain the ICU reasonable carry on the essential condition of ICU treatment, prospective, nursing is helpful for prevention of adverse circumstance and observation, help to improve work safety in the ICU.

1. Introduction

Prospective care for nursing staff has a wealth of experience in ICU, good ability in problem analysis, can be combined with the performance of the patients, observe patient's feelings, and to explore in-depth questions, to be able to anticipate the patient may appear bad problem, in endotracheal intubation, combined with the surrounding environment, the patient's individual differences, etc., to find a common hidden unplanned extubation and the influencing factors, and protect a safe in the treatment of patients in ICU, prompting patients successfully treated, avoided during treatment affect the emergency patients recovered.

2. Materials and Methods

2.1 General Materials

100 patients undergoing ICU endotracheal intubation in our hospital were randomly divided into the control group and the observation group, with 50 cases in each group. The control group received routine nursing management, including 19 male patients and 31 female patients, whose age ranged from 19 to 75 years, with an average age of (43.29±7.46) years; The observation group received prospective nursing management, there were 27 male patients and 23 female patients, the age of the patients ranged from 20 to 76 years old, with an average age of (44.29±9.64) years old.

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There were 14 cases of shock, 12 cases of severe pneumonia, 17 cases of severe acute pancreatitis, 8 cases of acute respiratory distress syndrome, 13 cases of acute heart failure, 7 cases of acute renal failure, 12 cases of acute liver failure, 9 cases of multiple trauma and 8 cases of poisoning. There was no significant difference between the classification of patients' disease and the basic data of patients P>0.05.

2.2 Methods

Routine care:

Explain to patients and their families catheter reason, the purpose of the catheter, illustrate the unsafe factors, alert family members, with the problems existing in the observation, such as the changing nature of the liquid color, transfusion center jump speed, patient skin swelling, catheter displacement can cooperate check by family members, and nursing staff did not pay attention to the report in a timely manner, to the patient or family members to strengthen education and of the corresponding specification, making family liquid flow rate adjustable, families and to avoid arbitrary line move, guide the patients in the toilet, diet and other activities in pay attention to avoid pressure pipeline, avoid pipeline with sharp objects around. Appropriate items and alternate items should be available at the bedside of the patient. Assist the patient to position the patient, explain the nature and effect of the drug solution to the patient, auscultation whether the breath sounds of both lungs are symmetrical after successful intubation, prepare sputum aspiration items, clean up the patient's mouth and nose secretions, strictly aseptic operation, and wear aseptic gloves in the process of sputum aspiration and intubation.

Prospective care:

Attention should be paid to the examination of markers before and after intubation, and the depth of intubation and the date of implantation should be clearly indicated to remind the patient, and the clarity of the signs should be checked at any time. When the signs are vague, they should be updated in time. At the same time, records should be made with double signs for inspection.

Pay attention to the depth of the catheter, the catheter tip from juga 2-4 cm, men generally inserted depth of 22-24 cm, female patients generally inserted depth of 20-22 cm, view the exposed length after catheter, avoid the depth of cannula is not away from, also avoid too deep cause patient discomfort, intubation after intubation, should pay attention to the fixed way, should be combined with the situation of the patients, combined with the experience to choose the appropriate form of fixed, fixed check for many times, after analysis of the shift or pipe of possibility, if patients more irritable, often turn, should increase inspections, and ask the family members cooperate to check, Generally should be replaced twice daily fixture, depending on the clinical situation, should be increased in patients with more irritable when replacement number, pay attention to the psychological comfort for patients, patients with sputum suction if need, we should pay attention to the front and back of sputum suction to itch, pressure suction to the appropriate size, adult should be 150~200mmHg(0.04-0.06Mpa), should be about rotation, sputum suction side absorb a side to retreat, sputum suction lift up each time not more than 15 seconds, sputum suction is not more than three times in a row, sputum larger necessary: electronic bronchoscope, should pay attention to during the period of patients with oral rinse, wipe, should have regular oral care, The patient's feeling can be combined with the appropriate elevation of the head of the bed, check the instrument, assess the patient's extubation conditions, re-evaluate and adjust the extubation plan every day, if the extubation time can be advanced, explain with the patient and encourage the patient to have the confidence of recovery. The patient's mood may also affect the extubation, so attention should be paid to the patient's sedation care, the use of sedatives when necessary, to strengthen the restraint of the patient, from the perspective of the patient to avoid the unplanned extubation caused by the patient's break free, to help the patient to keep calm, to form a sense of trust to the nursing staff, to establish a good nurse-patient relationship.

2.3 Observation Indicators

Combined with the prevention and management of Unplanned extubation of tracheal intubation (UEX) in ICU, the inter-group comparison was conducted to compare the incidence of Unplanned

extubation of tracheal intubation (UEX) during hospitalization, the rate of catheter shedding, catheter displacement, catheter swelling, infection (thrombosis), the satisfaction rate of patients in the two groups, and the overall efficiency of nursing.

2.4 Statistical Methods

Choose SPSS intelligent analysis system, building database according to material properties and analogy unit observation data, the hypothesis is tested samples with X^2, covered by the statistical mean, geometric mean and the median involves the quantity take t test, x±s (mean + _standard deviation) for the average standard deviation of plus or minus, P as the probability value, contrast there were significant differences between groups, $P < 0.05$, contrast there is no difference between groups ($P > 0.05$).

3. Results

In the observation group, 1 case of catheter shedding, 2 cases of catheter displacement, 1 case of catheter swelling, and 1 case of infection (thrombosis). Adverse rate of patients is 10%; In the control group, there were 3 cases of catheter shedding, 2 cases of catheter displacement, 3 cases of catheter swelling, and 2 cases of infection (thrombosis), with an overall probability of 20%.

Table 1 comparison of adverse symptoms between the two groups

group	n	catheter shedding	catheter displacement	catheter swelling	infection (thrombosis)	adverse rate
the observation group	50	1	2	1	1	10%
the control group	50	3	2	3	2	20%
X^2	-	3.245	4.125	3.265	3.258	4.152
P	-	<0.05	<0.05	<0.05	<0.05	<0.05

The observation group was not satisfied with 1 case, and the control group was not satisfied with 6 cases, all of which were related to the catheterization problem in nursing. It can be seen that the feelings of patients in ICU care were directly related to the unplanned extubation in catheterization, which should be paid attention to.

Table 2 satisfaction scores of patients in two groups during nursing care [n(%)]

group	n	satisfaction	general satisfaction	dissatisfaction	total satisfaction rate
the observation group	50	38	11	1	49(98%)
the control group	50	35	9	6	44(88%)
X^2	-	4.256	5.263	3.245	3.764
P	-	<0.05	<0.05	<0.05	<0.05

In the observation group, there was 96% inefficiency in nursing, and in the control group, 72% total efficiency. The ineffectiveness of nursing in the two groups was also directly related to unplanned extubation. Extubation affected the patient's infusion of medicine, delayed the recovery time, and caused greater psychological pressure on the patient and slowed down the treatment speed.

Table 3 comparison of effective rate of treatment between the two groups

group	n	effective	apparent	no effects	total effective rate
the observation group	50	31	17	2	96%
the control group	50	22	14	14	72%
X^2		2.641	3.265	3.745	2.856
P		< 0.05	< 0.05	< 0.05	< 0.05

4. Discussion

ICU unscheduled endotracheal extubation factors are many, may be the patient's mood be agitated, inadvertently touch in pipeline caused fall off, is probably the catheter way is not correct, lead to the stability of insertion is not strong, may be the influence of other factors, risk of hidden, nursing observation and discussions should be forward-looking, analysis of the patient's needs, catheter tube project schedule, etc., in a prospectie, care, can be in advance of possible problems in the analysis, carries on the prevention and control, makes endotracheal intubation management more refinement, patients understand the significance and purpose of the endotracheal intubation, can observe with intubation, Feedback their feelings, to establish a good relationship between nurses and patients, effectively avoid the line pull appears during intubation, discount, distort, ensures that the aseptic operation, and in a timely manner to the patients with oral care, etc., make patients to reduce the intubation discomfort, reduce the psychological pressure, which can realize the ICU endotracheal intubation increased alveolar ventilation effectively, reduce airway resistance and dead space, to enhance the efficiency of the respiratory gas exchange, the survey statistics, the situation in observation group were better than control group, forward-looking nursing has obtained the good effect, worth clinical promotion.

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