Journal of Clinical and Nursing Research

Research Article

Observations on the Application of Nursing Risk Management in the Care of Critically Ill Patients in the Respiratory Unit

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Abstract: ***Objective:*** Investigate the effectiveness of nursing risk management in the care of critically ill patients in the respiratory unit. ***Methods:*** Among the critically ill respiratory patients admitted to our hospital between May 2019 and April 2020, 78 patients were randomly selected and divided into an observation group and a control group, each consisting of 39 patients. In the observation group, a nursing risk management model was implemented, i.e., patients' clinical symptoms were observed at any time to monitor their treatment satisfaction and the effectiveness of their care and routine care was implemented for the control group. ***Results:*** The heart rate, respiratory rate, and pH of patients in the observation group were more stable than those in the control group, and their respiratory status was better, with differences in data. There was also significant statistical significance (P<0.05). The incidence of patient-provider disputes, unplanned extubation, and unplanned events were lower in the observation group compared to the control group, and their data difference was statistically significant (P<0.05). The treatment satisfaction as well as the total effective rate of patients in the observation group was also much higher than that of the control group, and there was also a statistically significant difference in the data (P<0.05). ***Conclusion:*** The nursing risk management model has a significant therapeutic effect in the care of critically ill respiratory patients. Therefore, it is worth popularizing to use in the clinical nursing of respiratory critical patients.

Keywords: Nursing risk management; Respiratory critically ill patients; Applied observation

Publication date: July, 2020

Publication online: 31 July, 2020

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Respiratory critically ill patients often have symptoms such as coughing, breathing distress, and coughing up sputum because they are older and their mucus is thicker, it is not easy to cough up, and when symptoms are not managed properly, it can lead to life-threatening or other medical conditions. In order to improve the effectiveness of care for critically ill respiratory patients, a safe and comfortable care environment should be created for them, so that their suffering can be significantly mitigated. Our hospital used a modern nursing philosophy, namely the nursing risk management model, and achieved good results. The entire study is reported as below.

1 Information and methodology

1.1 General information

78 patients were randomly selected from among the critically ill respiratory patients admitted to our hospital between May 2019 and April 2020, all of them were disposed of in the intensive care unit for medical treatment. The clinical symptoms of the selected patients were shortness of breath, wheezing, cough, chest tightness, and dyspnea, and all patients had two or more such disorders. These patients were randomly divided into two groups, i.e., observation and control group. In the observation group there were 39 patients, 21 males and 18 females, whose ages ranged from 53.1 to 78.8 years old. The mean age was (60.2 ± 4.3) years, and there were 13 asthma patients, 16 chronic pulmonary heart disease patients, 10 Patients with chronic obstructive pulmonary

disease. In the control group there were 39 patients, 15 women and 24 men, whose ages ranged from 56.6 to 79.1 years. The mean age was (62.5 ± 5.1) years old, there were 10 asthma patients, 10 chronic pulmonary heart disease patients, 19 patients with chronic obstructive pulmonary disease. The two groups were not statistically significant at the level of disease type or age, and therefore the two groups were comparable.

1.2 Methodology

Routine care for the control group, i.e., reminding the patients to pay attention to their daily diet before and after surgery, and to have a necessary understanding of the activities that should be carried out after surgery (no surgery in internal medicine,) and then educate them accordingly. A nursing risk management model of care was implemented for the observation group, i.e., a 24-hour monitoring of the care of the patients and after their discharge from the hospital to achieve the corresponding periodic visits, the specific operation process are carried out as follows.

The first step is to achieve the formation of a nursing risk management group. Led by the head nurse, the team members will discuss the corresponding tasking arrangements and ask the observation team members to take the initiative to take on their own tasks in order to achieve the necessary improvements in efficiency. This is followed by a review of the work done, i.e., based on the hospital's actual situation, specific defense and nursing plans sre put forward for patients' conditions, such as accident defense plans and test equipment malfunction defense plans, each of which is observed by the team developed by the group members after a rigorous deliberation[1]. In the second step, regular risk management training efforts are conducted for the observation team members to promote nursing staff's nursing knowledge reserve and operational proficiency to achieve the necessary improvement. In practice, when training in care risk management is carried out, the responsibility of the care staff should be reinforced as much as possible so as to prevent problems that could lead to an increased level of nursing risk due to nursing errors. The third step is to actively implement the nursing risk prevention plan and use it flexibly, i.e., according to the actual characteristics of the patient's condition, evaluate and adjust the nursing risk prevention plan as necessary and implement emergency measures to prevent the situation from worsening[2].

1.3 Observational indicators

The probability of the occurrence of risk conditions (e.g., burns, bed falls, etc.) during the hospitalization of patients in the control and observation groups was calculated by the nursing staff, and the corresponding incidence of nurse-patient disputes and the incidence of unplanned extubation should also be recorded promptly. In addition, the outcome of care can be classified as effective (low incidence of patient risk conditions), ineffective (patient risk conditions occur from time to time) and excellent (almost no risk status in patients). This is a means of comparing and analyzing the total valid values of the two groups of patients[3]. The clinical parameters such as heart rate, respiratory rate, and pH of the two groups of patients were observed as necessary, and timely record the patients and their family's return visits and classification of the results into three levels: satisfactory, more satisfactory and unsatisfactory. Satisfaction = (relative satisfactory + satisfactory) number of cases / total number of cases x 100%.

1.4 Statistical methods

SPSS 18.0 software was used to analyze the corresponding data, and the mean ± standard deviation ($\bar{x} \pm s$) was used to represent the measures, and use repeated measures of variance to achieve comparative work for within-group data, and then use single-factor variance to achieve the comparison between groups, use to perform the necessary tests on the count data. The differences in the resulting data are statistically significant (P<0.05).

2 Results

2.1 Comparison of heart rate, respiratory rate, and pH of the two groups of patients

From Table 1, it is easy to see that the heart rate, respiratory rate, and pH tended to be more stable in the observation group compared to the control group, and the respiratory status of the patients in the group was much better than that of the control patients, and there was a statistically significant difference in their data (P<0.05).

Table 1. Comparison of heart rate, respiratory rate, and pH in the two groups ($\bar{x} \pm s$)

Groups	Instances	Heart rate (beats/min)	Respiratory rate (times/min)	pH
Observation group	39	92.3±7.9	23.1±2.6	7.2±1.9
Control group	39	104.2±11.5	32.4±4.5	7.6±3.2
T-value		2.1191	2.9956	2.8366
P-value		0.0230	0.0010	0.0018

2.2 Compare the effectiveness of the two groups of patients before and after the implementation of nursing risk management

From Table 2, it can be seen that, compared to the control group, the observation group's implementation of nursing risk management resulted in the incidence of nurse-patient disputes, unplanned extubation and accidental events was significantly lower, and the difference in their data was statistically significant (P<0.05).

Table 2. Comparing the effects of implementing nursing risk management before and after the two groups [n (%)]

Groups	Instances	Nursing disputes arise	Unplanned extubation	Accidents happen
Observation group	39	1(2.56)	2(5.13)	1(2.56)
Control group	39	6(15.38)	10(25.64)	6(15.38)
-value		3.9235	6.3030	3.9235
P-value		0.0476	0.0121	0.0476

2.3 Comparing the satisfaction of the two groups of patients with their care

From Table 3, it is easy to see that, compared to the control group, the satisfaction of patients' families and the patients themselves after the implementation of care risk management in the observation group was significantly higher and there was a statistically significant difference in their data (P<0.05).

Table 3. Comparing the satisfaction with care in the two groups [n (%)]

Groups	Instances	Dissatisfaction	Reasonably satisfactory	Satisfied	Satisfaction
Observation group	39	1(2.56)	13(33.33)	25(64.10)	97.4
Control group	39	5(12.82)	15(38.46)	18(46.15)	84.6
χ^2-value					3.9235
P-value					0.0476

2.4 Comparing the effectiveness of care for two groups of patients

From the data in Table 4, it is easy to see that the overall effectiveness rate is significantly higher after the implementation of nursing risk management in the observation group compared to the control group. There was a statistically significant difference in the data between the two groups of patients (P<0.05).

Table 4. Comparing the effectiveness of care in two groups of patients [n (%)]

Groups	Instances	Null	Effective	A conspicuous effect	Total effective
Observation group	39	2(5.13)	7(17.95)	30(76.92)	37(94.8)
Control group	39	8(20.51)	10(25.64)	21(53.85)	31(79.5)
χ^2-value					4.1294
P-value					0.0421

3 Discussion

3.1 Care during treatment

The majority of patients in respiratory distress are middle-aged and elderly, who will inevitably experience shortness of breath after strenuous activity. Patients may even experience slow responses and a sudden decline in motor skills. This is why it is important to minimize nursing risk in the management of critical care patients, for example, by providing adequate care for patients in the ICU, a dry environment is essential to avoid slippage as much as possible[4]. When the patient is outdoors, it is important to ensure that the patient is accompanied by a family member or health care provider to ensure that the patient is not slipping in order to ensure personal

safety. Dietary care for critically ill respiratory patients should be based on regular consumption of light foods, and patients should be instructed to stop drinking and smoking. It is important to refrain from eating stimulating foods. In addition, regular cleaning of the living environment should be carried out to ensure that the patient's recovery environment is as high levels as possible. Caregivers should also pay close attention to the patient's illness status, such as coughing up sputum and improvement in respiratory rate. If there is unresponsiveness, lethargy, depression, or shortness of breath, then it indicates the patient's condition is getting progressively worse. At this point, nursing strategies should be adjusted in a timely manner and professional medical measures should be taken[5].

3.2 Care during recovery

The condition of critically ill patients in the respiratory unit may improve significantly after a period of risk management of their care, but it still necessary that adjustments should be made to the care measures. The adjustment of care for critically ill patients in the respiratory unit should be based on the principle of strengthening the patient's constitution, the most reasonable exercise program was developed to improve the patient's immune system in accordance with the patient's actual constitution. Ask patients to quit drinking and smoking to ensure that their respiratory function can achieve rapid improvement[6]. In addition, patients should be instructed to pay long-term attention to warm work, try to avoid the occurrence of cold, so as not to affect the process of recovery of the patient's illness.

3.3 Summary of nursing risk management

Because of the rapid development of our industrial economy, the current air pollution in China is very serious, and elderly people with poor health suffer from this. Multiple respiratory diseases. According to the available authoritative data, since 2015, the number of patients with respiratory critical illnesses in China has been rising, with each year, there will be a large number of elderly people suffering from this condition. The majority of patients with respiratory critically ill patients are elderly, and their common symptoms are coughing up sputum, coughing and difficulty breathing. If the disease is not effectively managed, it will lead to a higher risk of life, and thereafter the risk of care will increase[7]. In order to achieve a rapid recovery and reduce the incidence of care risks and patient mortality, it is important to implement risk management models in the care of critically ill patients in order to achieve the necessary consolidation of patient outcomes.

Nursing risk management belongs to a new generation of nursing philosophy, which is a new model of care for critically ill patients in the respiratory unit. The main purpose of the model is to effectively identify potential risks in the delivery of re-care by patient caregivers, and then based on these potential risks, appropriate countermeasures were developed to minimize the risk of patient care[8-9]. The impact of nursing risk management on the outcome of respiratory care for critically ill patients was investigated in this paper. Data, heart rate, respiratory rate, and pH are in the normal range after implementing the nursing risk management model for critically ill patients. The respiratory status of the patients was significantly better than that of patients who implemented conventional care[8]. Moreover, after the implementation of the nursing risk management model, the incidence of patient-provider disputes, the incidence of unplanned extubation, the incidence of unplanned events, and the incidence of unplanned events were significantly better than the incidence of unplanned extubation[8]. The overall effectiveness of the treatment was much lower than that of patients undergoing conventional care, with an overall effectiveness rate of 94.8%, and the satisfaction of families of patients and the patients themselves was as high as 97.4%.

In summary, the application of the nursing risk management model to the care of critically ill patients in the respiratory unit can lead to the necessary reduction in the incidence of patients' illnesses, and can effectively improve the effectiveness of the corresponding care, to ensure that the necessary reduction in the risk of care of critically ill patients in the respiratory unit can be achieved, therefore, it is worthwhile to apply the nursing risk management model to the clinical care of critically ill patients in the respiratory unit[10].

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