



Exploration of the Role of Cluster Nursing in RICU AECOPD Patients With RF

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Abstract: Objective: To observe the clinical benefit of cluster nursing mode in RICU patients with acute exacerbation of Chronic Obstructive Pulmonary Disease (COPD) complicated with RF. Methods: From December 2020 to March 2022, 73 cases of patients with acute COPD and RF admitted to RICU Department of Respiratory Department were selected. According to the order before and after admission to RICU department of respiratory department, patients with inability to communicate due to disease were excluded and divided into two groups. Control group: Adoption of traditional nursing mode; Observation group: Cluster nursing mode was adopted. After nursing, blood gas analysis results and patients' satisfaction scores on nursing work were compared and observed between the two groups. Results: The blood gas analysis results of the observation group were significantly better than the control group, and their evaluation of nursing work was also higher than the control group. Conclusion: In the clinical operation of our department RICU, this cluster nursing mode alleviates the distress perception of patients with COPD acute attack combined with RF, which also alleviates the patients' mood, improves the patients' understanding and satisfaction of nursing work, and thus playing a promoting role in improving the nursery-patient relationship and nursery-patient harmony.

Keywords: cluster nursing, AECOPD, RF

Chronic Obstructive Pulmonary Disease (COPD) is a common disease in respiratory field. Without obvious causes, the disease will be acute, manifested as airflow obstruction, respiratory muscle strain, and then appear abnormal ventilation function, respiratory failure. The disease includes cough, sputum, dyspnea, shortness of breath, wheezing, chest tightness and other symptoms, with high disability rate and fatality rate, which seriously endangers the life safety of patients[1-2]. It increases the economic burden of the patients and social burden. During this period, patients not only need to receive reasonable and timely treatment, but also need to receive professional and standardized nursing services[3]. To observe the effect of cluster nursing mode on patients with COPD combined with respiratory failure (RF). The following nursing study was carried out on 60 patients of RICU in our department.

1. Data and methods

1.1 Clinical data

A total of 73 patients with acute COPD and RF admitted to RICU in our department from December 2020 to March 2022 were selected and divided into two groups according to the order before and after admission to RICU, excluding those unable to communicate due to disease. The control group included 19 males and 11 females, aged 67.1 ~ 86.6(73.50 ± 1.55) years. The observation group included 21 males and 9 females, aged 68.3 ~ 91.2(73.76 ± 1.66) years. Statistics showed no statistical significance ($P > 0.05$).

1.2 Methods

The patients in the control group admitted to RICU received routine treatment and nursing, and the patients in the observation group admitted to RICU were added the cluster nursing mode on the premise of the control group. The specific measures are as follows: ① Making a plan. After the patient is admitted to the respiratory department RICU, the responsible person will simultaneously appointed, who will make clear all aspects of the patient's information, check and evaluate the degree of the patient's disease[4] and determine the characteristics of the patient's condition. Besides, they will analyze the key points of nursing, make a nursing plan and communicate with the tube beds in real time, dynamically improve the nursing plan and implement it according to the treatment plan. ② Condition monitoring and medication care. Administering all kinds

of drugs as prescribed by the doctor, such as antibiotics, cough and phlegm, tracheal dilator, etc. The ECG monitor will be used to dynamically monitored the patient's vital signs for 24 hours, and doctors will closely observe the patient's medication response, the patient's skin and mucous membrane for abnormal phenomena, and patients should timely communicate with the doctor in case of abnormal changes in various indicators. ③ Oxygen therapy. According to the doctor's advice, oxygen therapy was performed and dynamic observation was made. Nasal congestion oxygen inhalation kept the nasal passages unobstructed, oxygen was fully humidified in the oxygen inhalation device, and oxygen was continuously inhaled at low flow rate. When using the ventilator, the patients should be guided to use the ventilator, to achieve man-machine coordination, nursing operation and the use of ventilator should be in strict accordance with the requirements of sensory control, so as to make sure that one equipment serves one patient to prevent cross infection and aggravate the disease. ④ Rest and position. Taking a position according to the patient's condition, and doctor should inform the patient of the importance of maintaining bed rest. At the same time, in order to improve the patient's recovery of breathing, prevent the occurrence of choking cough, reduce hospital acquired dysfunction, the appropriate individual position, such as: half sitting, sitting, bedside position can be taken according to the patient condition. ⑤ Airway management. Appropriate airway clearance technology was applied to the patient. The patient with weak sputum discharge was given atomization inhalation, back tapping sputum discharge, electric sputum discharge machine, vibration sputum discharge vest. Electric massage table, vibration massage and other active and passive forms of multiple combination are used to promote sputum discharge, the patient has no water and sodium retention, balanced access, condition permits, patients can be encouraged to drink warm water, to keep the airway moist, which is conducive to sputum discharge. When manual sputum aspiration is required, the principle of aseptic operation should be strictly followed to avoid aggravating infection. ⑥ Rehabilitation training. According to the local culture of the island, the degree of education and the old people's ability to accept and understand things. At the same time of treatment, the patient should develop a dynamic pulmonary rehabilitation plan, and encourage and assist the patient to achieve the exercise goal gradually. ⑦ Nutritional support. In collaboration with the nutrition department of our hospital, we formulated catering plans for patients according to various nutritional indicators of patients, including protein content, nutritional status, regional and individual eating habits, oral mucosa, chewing and swallowing ability, digestion, etc., to provide balanced nutritional supply for patients, and advocated and encouraged patients to eat through mouth independently. In order to ensure the patient's balanced nutrition, so as to improve the patient's body resistance and immunity. Some researchers have shown that patients with COPD combined with RF, nutrients are supplied through the intestine, which can protect the mucosal wall of the gastrointestinal tract, prevent it from atrophy, maintain the normal peristalsis of the gastrointestinal tract, maintain the digestive and absorption capacity of the gastrointestinal tract, make the blood circulation in the gastrointestinal tract run normally, promote the absorption of nutrients, and thus improve the immunity of the patients[5]. ⑧ Strengthening psychological care, work and operation. If the patient's condition permits, we should communicate with the patient more often, and learn about the patient's personality characteristics from the patient's family through TV videos, so as to accurately assess the patient's psychological emotions. At the same time, we should pay attention to the patient's emotional changes, we should listen more, encourage the patient for communication. To solve the problems for the patient in time, inform the patient of the purpose and precautions of each operation and medication, and obtain the cooperation of the patient, so that the patient will trust the medical staff more and have more confidence in the treatment of their disease, and the physical and psychological pressure can be released.

1.3 Detection indicators

Blood gas analysis was performed on the two groups of patients to evaluate the data of patients in different groups of PH, PaCO₂ and PaO₂ in blood gas analysis. The nursing job satisfaction survey was carried out for both groups of patients, and they were graded.

1.4 Statistical processing

The monitoring data and patient scoring data were analyzed with SPSS 20.0 statistical package, and the measurement data were expressed as mean ± standard deviation, and T-test was conducted between groups. P< 0.05 was considered to be statistically significant.

2. Results

The comparison of relevant data between the two groups is shown in the following Table. It can be clearly seen that the mean indexes of blood gas analysis in the observation group were slightly higher than normal except for the PaCO₂ index, and PH and PaO₂ were within the normal range, while the control group was obviously deficient. There was also a significant difference in patient satisfaction scores, with higher ratings in the observation group. See Table 1 for details.

Table 1. comparison table of two groups of data

Group	PH	PaCO ₂ (kpa)	PaO ₂ (kpa)	Satisfaction score
Observation Group	7.43±0.11	6.23±1.23	13.02±2.92	83.8±5.50
Control Group	7.31±0.10	9.34±3.04	10.93±2.49	69.23±8.50
t	-4.22	5.20	-2.98	-7.87
P	0	0	0.004	0

3. Discussion

All patients with acute COPD and RF are seriously ill and will be placed in RICU when they are admitted to the respiratory department. Due to the nurses' work intensity in RICU ward, the space is relatively closed, and the normal epidemic prevention standards in the past two years, visits and interviews are limited, all of which have a corresponding impact on the physical and mental health of patients to a certain extent. In keeping with the times, we are also applying the model of clustered care first proposed by the Institute of Health to clinical practice. The practical data clearly showed that carbon dioxide retention and hypoxia were improved in the observation group, and the increased interaction between nurse and patient also greatly improved patient satisfaction. From the perspective of "people", cluster nursing provides more rational, targeted and systematic nursing measures for patients, thus doubling the improvement of the nursing effect of patients[6]. In recent years, most researchers have also given positive evaluation on the effect of cluster care in COPD patients. In this study, cluster nursing mode was adopted for patients with acute COPD and RF admitted to our department RICU. It was found that such patients admitted to our department were all the elderly with acute attacks. Due to the diverse and difficult dialects of Hainan local characteristics, nursing-patient communication of our young nurses was also challenged.

Through the application of the cluster nursing mode, we transform the previous centralized nursing and patient communication mode to nurse and patient and family cooperation communication. Internet phone, TV and video are used in the ward so that patients feel that their families are with them, relieving the pressure and burden in their hearts. Family members are more assured and at ease with patients and medical treatment, which lays a foundation for the follow-up implementation of nursing, and improves the satisfaction of patients and their families with nursing staff. This mode of multi-thinking and whole-party action also makes us more trusted by the three parties, patients and their families, and has achieved good clinical benefits.

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