# International Journal of Medicine and Life Sciences

Volume 4, Issue 2, December, 2019

#### http://www.hknccp.org

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Publisher: HongKong New Century Cultural Publishing House

Address: Unit A1, 7/F, Cheuk Nang Plaza, 250 Hennessy Road, Wanchai, Hong Kong

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### Analysis of the Effect of Comfortable Nursing on the Treatment of COPD Combined with RespiratoryFailure with Non-invasive Ventilator

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**Abstract:** This paper analyzed the effect of comfort nursing in the treatment of COPD with respiratory failure in non-invasive ventilator. Total of 40 patients with COPD and respiratory failure treated with non-invasive ventilator admitted to the Department of Critical Care Medicine from January 2016 to January 2018 were selected as subjects. According to the order of admission, they were divided into experimental group and control group, 20 cases ineach. The control group was given routine care, and the experimental group was given comfortable nursing on the basis of routine nursing. The comfort of the two groups, the incidence of pressure sores, the satisfaction of nursing and the results of clinical indicators were high. The satisfaction and comfort of the experimental group were high. In the control group, the incidence of pressure ulcers decreased, clinical indicators improved significantly, the difference was statistically significant ( $P \le 0.05$ ). Conclusion in the care of COPD combined with respiratory failure, comfort care not only improves patient satisfaction and comfort, but also significantly improve the clinical indicators, it is worth promoting in clinical work.

**Keywords:** Comfort care; Non invasive ventilator; COPD; Respiratory failure

#### 1. Introduction

COPD is a common disease of chronic respiratory diseases. It is a chronic disease characterized by persistent airflow limitation, which has a severe decline in quality of life and a high mortality rate<sup>[1]</sup>. Non-invasive ventilator assisted ventilation is the main method for the treatment of COPD. Non-invasive ventilation needs to connect the nasal mask to the ventilator. Although the patient's pain is less painful than the tracheal intubation, the care is not easy to cause various complications, and even Aggravating the patient's condition, based on the above problems, analyzing the effect of comfort nursing on non-invasive ventilator in the treatment of COPD with respiratory failure, the report is as follows.

#### 2. Data and Methods

#### 2.1. General information

Forty patients with COPD and respiratory failure treated with non-invasive ventilator admitted to the Department of Critical Care Medicine from June 2016 to June 2018 were enrolled in the study. They were divided into experimental group and control group according to the order of admission, 20 cases each. There were 20 patients in the experimental group, 15 males and 5 females, aged between 55 and 88 (mean age 70±1.5), 20 in the control

group, 13 males and 7 females, aged 45-90 years old. Between (mean age  $66 \pm 1.5$ ). There were no significant differences in gender, age, and duration of disease between the two groups ( $P \le 0.05$ ), which was comparable.

#### 2.2. Method

The control group received routine care: giving patients guidance for admission, medication and health education, and implementing basic care.

The experimental group implements comfortable nursing on the basis of routine nursing: Pre-treatment care: Give psychological care, first introduce the necessity of using non-invasive ventilator and related precautions, inform patients of the same condition to cure, and enhance patients to overcome disease Confidence reduces patient fear and other negative emotions. Guide and assist the patient to choose a comfortable position to keep the patient's airway open. Choose a mask of the right size, and the material should be soft and well sealed<sup>[2]</sup>. Intreatment care: Ensure that the ventilator connection tube and the nasal mask are unobstructed, closely observe the patient's vital signs, and adjust the ventilator mode and parameters according to the patient's hypoxia status and blood gas analysis results. Within 48 hours before the patient uses the ventilator, closely observe the degree of cooperation between the patient and the ventilator, and the abnormal situation is dealt with in time. Instruct patients to perform respiratory function training and encourage patients to exercise properly in bed to increase the ability of bowel movements. Studies have shown that COPD patients with respiratory failure often have flatulence, ventilator-associated pneumonia and oropharyngeal discomfort during non-invasive ventilation, and dietary intake should be strictly controlled<sup>[3]</sup>. In order to prevent dry mouth and oropharyngeal discomfort, oral administration of warm boiled water can be given intermittently. 4 Because of the long-term use of the mask, it is easy to cause pressure sores on the bridge of the nose and cheeks. The tightness of the mask should be adjusted frequently, and the pressure-applying part should be applied to the foam dressing to prevent the occurrence of pressure sores. Comfort treatment after treatment: After the patient's condition is stable, stop the use of the ventilator, the patient's psychology may be dependent on the psychology, lack of confidence in spontaneous breathing, the nursing staff should strengthen psychological counseling, encourage patients, and teach patients abdominal The method of breathing encourages the patient to recover soon.

### 2.3. Observation indicators and evaluation criteria

Observe and compare the comfort, pressure ulcer incidence, nursing satisfaction and clinical indicators (oxygen saturation, carbon dioxide partial pressure, PH value) of the two groups of patients. The comfort level is evaluated by self-made scale, including psychology, limbs and operation. The environment is evaluated in 4 dimensions. Each dimension has 10 points. The higher the score, the higher the comfort.

#### 2.4. Statistical methods

SPSS18.0 statistical software was used for data processing. The measurement data  $\pm s$  indicates that using t test, P $\leq$ 0.05 was statistically significant.

#### 3. Results

Compared with the control group, the satisfaction and comfort of the experimental group were higher than that of the control group, and the incidence of pressure ulcers decreased. The clinical index was better than the control group. The results are shown in Table 1-4.

Table 1. Comparison of nursing satisfaction

Group	cases	Satisfied	Basic satisfaction	Dissatisfied	Total satisfaction rate
Experimental group	20	12	7	1	19 (95%)
Control group	20	7	4	9	11 (55%)

Table 2. Comparison of comfort

Group	Cases	Psychological	Limbs	Operating	Environment
Experimental group	20	$8.9 \pm 0.8$	$8.7 \pm 1.0$	$9.0 \pm 0.7$	$8.5 \pm 1.1$
Control group	20	$7.1 \pm 1.2$	$7.9 \pm 1.2$	$8.2 \pm 0.9$	$7.6 \pm 1.3$

Table 3. Comparison of clinical indicators

Group	Cases	Pa o2 (mmhg)	Pa co2 (mmhg)	Heart rate (times / min)
Experimental group	20	$74.4 \pm 10$	$60.2 \pm 9.5$	$83 \pm 10$
Control group	20	60.2±8.9	$72.3 \pm 10.5$	94.2±13.5
Chi Square		6.85	5.12	4.81
P		≤0.05	≤0.05	≤0.05

**Table 4. Comparison of complications** 

Group	Cases	Flatulence	Oropharyngeal discomfort	Nasal and facial pressure sores	Total incidence
Experimental group	20	2	3	2	35%
Control group	20	6	4	5	75%

#### 4. Discussion

Non-invasive ventilator assisted ventilation can alleviate ventilator fatigue, improve lung compliance, promote bronchiectasis, reduce alveolar collapse, and allow carbon dioxide in the alveoli to be discharged, and non-invasive ventilation is simple and reduces the pain of endotracheal intubation<sup>[4]</sup>. Comfortable care allows patients to be treated in a state of pleasure. Comfortable

care is a new, personalized, care model that emphasizes comprehensive care from the physical, psychological, and social attributes of the person to improve overall patient outcomes.

The analysis of this study found that the comfort of the experimental group was significantly higher than that of the control group, and the skin care was strengthened during the treatment. It greatly reduces the incidence of pressure sores, and strengthens basic care and human

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care, while improving the patient's physical and mental comfort and improving patient compliance. In short, comfortable nursing is applied to non-invasive ventilators in patients with COPD and respiratory failure. The clinical application value is high and worth promoting.

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