

# Observation on the Effect of Comprehensive Nursing Intervention for Patients with Chronic Obstructive Pulmonary Disease

Cuirong Hu, Shu Zhu, Guixiang Li

Department of Integrative Medicine, West China Hospital, Sichuan University, Chengdu, China

**Abstract:** This study focused on the observation effect of the comprehensive nursing intervention in patients with chronic obstructive pulmonary disease. A total of 64 patients with the chronic obstructive pulmonary disease were selected as subjects. The patients were divided into two groups according to a randomized method. The observation group and the control group were the same in both groups ( $n = 32$ ), study time from June 2017 to August 2018, the selection of patients in the study time, the standard treatment and routine care to give way to the control group. The observation groups comprehend nursing intervention. The two groups of patients compared with nursing effects, nursing satisfaction, lung function levels before and aftercare, care adherence, hospitalization days, and satisfaction scores. The observation group was better than the control group in terms of nursing effect, nursing satisfaction, lung function level before and after nursing, nursing compliance, hospitalization days, and satisfaction score. The comprehensive nursing intervention of patients with the chronic obstructive pulmonary disease has significant effects and is worthy of further promotion and application.

**Keywords:** *chronic obstructive pulmonary disease; comprehensive nursing intervention; nursing effect; nursing satisfaction*

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**Corresponding Author:** Guixiang Li,  
zcy13184110818@sina.com

## 0 Introduction

Worldwide, there are many patients with chronic obstructive pulmonary disease, especially in China<sup>[1]</sup>.

There are many types of this disease including chronic bronchitis and obstructive emphysema. Most of the affected groups are in the elderly<sup>[2]</sup>. The elderly patients have a long course of the disease and have the characteristics of recurrent attacks. If the treatment is not timely, it will cause respiratory failure, heart failure, and other conditions<sup>[3]</sup>. Thus, the effective treatment and nursing are needed<sup>[4]</sup>. In this study, our department has achieved good results in analyzing the effects of comprehensive nursing intervention for patients with chronic obstructive pulmonary disease.

## 1 Materials and methods

### 1.1 Clinical data

The research standard was in line with the patient's own willingness in the choice of research methods. To avoid the patient's recurrence, all patients were voluntarily involved in the investigation and signed the consent book. To meet the research method of comparative analysis, our department selected 64 patients with chronic obstructive pulmonary disease divided into two groups, mainly divided into observation group and control group, each group of 32 patients, all patients the cases selected time period in June 2017–August 2018. Among them, the number of males in the observation group was 21 and the number of females was 11. The number of males was significantly higher than that of females. The maximum age and minimum age were 81 and 43, respectively, and the median age was  $(61.52 \pm 2.49)$  years. The time ranged from 2 to 19 years and the mean duration of disease was  $(10.68 \pm 2.41)$  years. The number of males in the control group was 20, and the number of

females was 12. The number of males was significantly higher than females. The maximum age and minimum age were 80 and 41, respectively. The median age was  $61.42 \pm 2.25$  years. From 2 to 18 years, the average duration of disease was  $10.56 \pm 2.38$  years. Comparing the gender, age and course of the disease, it was found that  $P > 0.05$  was not statistically significant.

## 1.2 Method

The two groups of patients were given the basic routine treatment, including oxygen therapy, anti-inflammatory, cough and phlegm, spasm, prevention and control of heart failure, maintenance of water electrolytes, and acid-base balance<sup>[5]</sup>. The control group using conventional care approach and patient observation group comprehensive nursing intervention care.

### 1.2.1 Nursing assessment

Nursing staff investigated and analyzed the basic information of patients. The key points concerned were with the patient's past smoking, allergy, infection, occupational diseases, and other factors. Based on these factors, the patient's current respiratory function, related complications, other factors that cause disease, and body reaction ability can be understood.

### 1.2.2 Health education

Establish a health education card based on the patient's personal information, and explain the relevant knowledge, risk factors, clinical symptoms, and related complications of chronic obstructive pulmonary disease to the patient by arranging continuous health education. The drugs used to treat the disease were explained to the patient, thereby improving the patient's understanding of the disease and improving their own treatment compliance.

### 1.2.3 Psychological care

Most of the patients with chronic obstructive pulmonary disease are elderly people. Due to the long course of the disease and the characteristics of recurrent episodes, their physical functions and immunity are not in the optimum states, and they are more susceptible to the disease. The impact of this will lead to pessimistic, anxiety, and other negative emotions<sup>[6]</sup>. Thus, the nursing staff should give individualized psychological intervention to the patient's different situations, and establish the patient's treatment confidence.

### 1.2.4 Guided exercise

To improve the recovery of lung function in patients, it was necessary to perform reasonable and effective functional exercise on the patient, improving the lung function of the patient, promoting the recovery of the patient's condition and improving the quality of life of the patient. Respiratory exercise mainly includes pursed lip breathing, abdominal breathing, and exercise training.

## 1.3 Observation indicators

Research methods used in this study mainly collected for comparative analysis; therefore, care approach observation group and control group patients applied two groups are different. To avoid confusion case, the standard treatment and routine nursing methods were given to the control group. The observation group conducted a comprehensive nursing intervention on this basis and observed and analyzed the nursing effect, nursing satisfaction, lung function level before and after nursing, and nursing compliance and hospitalization. Number of days and satisfaction scores, and draw conclusions.

## 1.4 Statistical analysis

SPSS17.0 or SPSS19.0 software has been used to test the data involved. The tool used to measure the relevant data ( $x \pm s$ ), and the t-test was performed. The application percentage (%) indicates the count, and the line  $X^2$  test,  $P < 0.05$  has statistical differences.

## 2 Results

### 2.1 Comparison of nursing effects

The data shown in the following table can be clearly compared. The difference in nursing effect between the observation group and the control group is significantly higher in the observation group than in the control group, Table 1 for details.

### 2.2 Comparison of nursing satisfaction

After comparison and statistical analysis, it was found that the observation group was far superior to the control group in terms of nursing satisfaction, Table 2 for details.

### 2.3 Comparison of lung function levels before and after treatment

There were significant differences in lung function levels between the observation group and the control group before and after treatment, Table 3 for details.

**Table 1. Comparison of the effects of two groups of nursing**

Group	Significant effect (%)	Effective	Invalid	Total efficiency
Observation group (n=32)	24 (75)	6 (18.75)	2 (6.25)	30 (93.75)
Control group (n=32)	8 (25)	14 (43.75)	10 (31.25)	22 (68.75)
X <sup>2</sup>				6.5641
P				0.0104

**Table 2. Comparison of nursing satisfaction between the two groups**

Group	Satisfaction (%)	Generally satisfied (%)	Not satisfied (%)	Total satisfaction rate (%)
Observation group (n=32)	24 (75)	7 (21.88)	1 (3.13)	31 (96.88)
Control group (n=32)	9 (28.13)	12 (37.5)	11 (34.38)	21 (65.63)
X <sup>2</sup>				10.2564
P				0.00136

**Table 3. Comparison of lung function levels before and after treatment**

Group	Pre-treatment FVC	FVC after nursing	Pre-treatment FEVI	FEVI aftercare
Observation group (n=32)	2.32±0.52	3.15±0.58	1.94±0.42	2.49±0.52
Control group (n=32)	2.31±0.49	2.94±0.42	1.93±0.38	2.09±0.56
T	0.0792	1.6589	0.0999	2.9609
P	>0.05	>0.05	>0.05	<0.05

**Table 4. Comparison of care compliance**

Group	Disease awareness (%)	Follow the doctor (%)	Oxygen therapy (%)
Observation group (n=32)	29 (90.63)	28 (87.5)	31 (96.88)
Control group (n=32)	19 (59.38)	18 (56.25)	18 (56.25)
X <sup>2</sup>	8.3333	7.7259	14.7159
P	0.0038	0.0054	0.00012

**Table 5. Comparison of hospital stay days and satisfaction scores between the two groups**

Group	The number of days in hospital	Nursing satisfaction score
Observation group (n=32)	13.24±3.16	98.36±2.43
Control group (n=32)	15.69±3.41	91.24±2.11
T	2.9811	12.5152
P	<0.05	<0.05

## 2.4 Comparison of nursing compliance

The compliance of patients in the observation group was much higher than that of the control group, Table 4 for details.

## 2.5 Comparison of hospitalization days and satisfaction scores in two groups

There were significant differences between the observation group and the control group in terms of hospitalization days and nursing satisfaction scores Table 5.

## 3 Conclusion

At present, with the development of our society, the situation of air pollution is becoming more and more serious. In particular, some specific occupations inhale a large amount of dust particles every day, which has caused more and more patients with respiratory diseases in China<sup>[7]</sup>, where chronic obstructive pulmonary disease belongs to a common clinical respiratory dysfunction disease, there are many reasons caused by the disease, which mainly include: Perennial smoking, harmful chemicals inhaled, and respiratory

tract infections<sup>[8]</sup>. If the disease was not treated promptly, it will eventually lead to pulmonary heart disease and heart failure, which seriously threatens the life safety of patients. The cause of the chronic obstructive pulmonary disease is mainly a disease of ventilatory dysfunction. It may be due to cause by obstruction of the airway of the patient, and the condition of the disease can only be deteriorated, and if the treatment is not timely, the life of the patient will be threatened. In addition, if the patient has bad habits such as smoking, it will have a higher health risk, mainly caused by harmful gases or harmful particles in the lungs. Patients with the chronic obstructive pulmonary disease usually have clinical symptoms such as cough, shortness of breath, and chest tightness<sup>[9]</sup>. The comprehensive nursing intervention can not only care for the patient's own illness but also can treat the patient's adverse reactions and complications. Thus, it can effectively alleviate the patient's bad mood, and promote the patient's recovery in a short time. After the patient is cured in the hospital, he or she can apply for discharge. After discharge, he or she should follow the doctor's instructions for regular medication and review to avoid the deterioration of the condition<sup>[10]</sup>. The use of comprehensive nursing interventions can enhance the quality of care for patients through nursing assessment, psychological care, health education, and instructional exercise.

In this study, the effect of the observation group, not only in nursing care and satisfaction to be higher, at the level of lung function before and after the treatment, care and compliance of hospital stay and satisfaction scores should be but also much better than the control group. It is worth comparing and analyzing.

In a nutshell, the comprehensive nursing intervention of patients with the chronic obstructive pulmonary

disease has obvious effects and can be further applied in clinical practice.

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