

Analysis of the Effect of Traditional Chinese Medicine Nursing Intervention Combined with Acupoint Application in The Treatment of Acute Exacerbation of Chronic Obstructive Pulmonary Disease

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Abstract: *Objective:* To study the effect of Traditional Chinese medicine (TCM) nursing intervention combined with acupoint patch in the treatment of acute exacerbation of chronic obstructive pulmonary disease (COPD). *Methods:* A total of 60 patients with acute exacerbation of COPD admitted between September 2022 and September 2023 were selected and randomly grouped into a control group (conventional care and treatment) and an observation group (joint interventions: traditional Chinese medicine nursing interventions, acupoint compresses), with 30 patients each. The arterial blood gas indexes of the two groups, hospitalization time, pulmonary function indexes, and TCM symptom scores were analyzed and compared between the two groups. *Results:* The arterial oxygen pressure (PaO_2) (9.52 ± 1.02 kPa) and partial pressure of carbon dioxide (PaCO_2) (5.01 ± 1.02 kPa) of the observation group were better than those of the control group after the intervention ($P < 0.05$). The forced expiratory volume (FEV1) ($3.38 \pm 0.15\%$), the FEV1% prediction value (72.52 ± 2.25), and the FEV1/ forced vital capacity (FVC) ($79.52 \pm 1.41\%$) were higher than those of the control group ($P < 0.05$). The hospitalization time (12.16 ± 1.02 d) and TCM symptom score (4.12 ± 1.26) of the observation group were better than those of the control group ($P < 0.05$). *Conclusion:* Significant nursing effects were achieved by carrying out combined interventions (Chinese medicine nursing intervention and acupoint application) during the acute exacerbation of COPD.

Keywords: Chinese medicine nursing intervention; Acupoint patch; Acute exacerbation of COPD

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1. Introduction

Chronic obstructive pulmonary disease (COPD) is common in middle-aged and elderly people, which is caused by a variety of factors and patients often have acute exacerbation. If the condition is poorly controlled, it affects the patient's prognosis. The main symptom of COPD is airflow restriction, which easily affects the patient's respiratory function and quality of life^[1]. Traditional Chinese medicine (TCM) believes that disease and emotion are closely related. The development of TCM nursing intervention combined with acupressure

treatment has achieved significant nursing effects. Acupuncture point patches are now widely used to stimulate the meridian circulation, regulate the balance of the whole organism, and exhibit better drug effects through the human meridian. This achieves the adjustment of yin and yang, soothes and revitalizes the body's efficacy, improves immunity, cures the disease, and strengthens the body. This study analyzes the effect of TCM nursing intervention combined with acupoint patch treatment for acute exacerbation of COPD.

2. Materials and methods

2.1. General information

In this study, 60 patients with acute exacerbation of COPD admitted to the hospital between September 2022 and September 2023 were selected and randomly grouped into a control group and an observation group, with 30 cases each. The observation group consisted of 16 males and 14 females aged 41–69 years old, with an average age of 56.21 ± 6.17 years. The control group consisted of 17 males and 13 males aged 42–69 years old, with an average age of 56.11 ± 6.19 years. The data (gender and age) of the two groups were comparable ($P > 0.05$). Inclusion criteria: (1) Patients diagnosed with COPD [2]; (2) patients with complete data; (3) in an acute exacerbation period. Exclusion criteria: (1) Patients with combined dysfunctional diseases as well as hematologic diseases.

2.2. Methods

The control group received routine nursing and treatment. After the patients were admitted to the hospital, their condition was closely monitored, including the patient's daily cough sputum volume, color, and cough duration. The patients were also observed for signs of respiratory distress and other conditions. If respiratory distress occurs, prompt intervention is carried out. In addition, drug therapy was provided for the patients where they were monitored for signs of discomfort. At the same time, nurses communicated with the patient to distract them during medication and increase treatment compliance.

The observation group received TCM nursing intervention with acupoint application. Auricular acupuncture point pressure was performed. The patient's auricular acupuncture points (lung, trachea, Shenmen, subcortical) were selected and the auricle was sterilized. A probe was used to detect the corresponding acupuncture points. A paste made from Vaccaria seeds was applied to the patient's acupoints for 2 minutes, three times a day. On the other hand, ear seeds were alternately applied to each ear. Nurses explained the concept of medicine and food so the patients understood the importance of a reasonable diet for recovery. If the patient is accompanied by phlegm, cough, and other symptoms, a laxative was administered to increase their appetite, moisten the lungs to resolve the phlegm, nourish Yin, and cure the cough. Patients were advised to consume goods like silver fungus soup, maintain good indoor air ventilation, and regularly exercise to effectively prevent the disease. In the process of treatment, the patient should be given to the patient to eat a good diet. To replenish qi and blood, a decoction consisting of angelica, wolfberry, mint, and other drugs was administered orally to the patient. If the patient is accompanied by poor sleep, constipation, and diarrhea, the patient is given dialectical diagnosis and treatment and then targeted care. Nurses provided respiratory care by providing daily respiratory training and abdominal respiration. Hand acupressure and breathing gymnastics were also carried out. This training was carried out for 30 minutes, once a day. Additionally, acupuncture point pasting (Zusanli, Piyu, Xinyu, Bilateral Feishu) was carried out, consisting of aster (3 g), chrysanthemum (3 g), platycodonopsis (3 g), and *Scutellaria baicalensis* (3 g). Ginger juice and honey can also be added. The paste was set on the acupuncture point for 5 hours, once a day, for 3 weeks.

2.3. Observation indicators

The arterial blood gas indexes, hospitalization time, lung function indexes, and TCM symptom scores of the two groups were compared. The Chinese medicine symptom score refers to the Chinese Medicine Disease Diagnosis and Efficacy Standards to formulate the symptom scoring standard [3]. The main symptoms include coughing, wheezing, shortness of breath, and sputum), which are scored using a 0–3 level scoring system, with a full score of 12 points. The higher the score, the more serious the symptoms.

2.4. Statistical processing

The SPSS 26.0 software was used to process data. Measurement data were expressed as mean ± standard deviation (SD). Results were considered statistically significant at $P < 0.05$.

3. Results

3.1. Comparison of arterial blood gas indexes between the two groups of patients

As shown in Table 1, after the intervention, the PaO₂ (9.52 ± 1.02 kPa) of the observation group was higher and the PaCO₂ (5.01 ± 1.02 kPa) was lower than those of the control group ($P < 0.05$).

Table 1. Analyzing the arterial blood gas indexes between the two groups before and after intervention (mean ± SD)

Group	PaO ₂ (kPa)		PaCO ₂ (kPa)	
	Before	After	Before	After
Observation group	7.25 ± 1.52	9.52 ± 1.02	7.33 ± 1.02	5.01 ± 1.02
Control group	7.26 ± 1.58	8.31 ± 1.12	7.35 ± 1.03	5.98 ± 1.52
<i>t</i>	0.0250	6.1128	0.2617	4.2614
<i>P</i>	0.9801	0.0000	0.9612	0.0000

3.2. Comparison of lung function indexes between the two groups

As shown in Table 2, after the intervention, the FEV1 ($3.38 \pm 0.15\%$), FEV1% predicted ($72.52 \pm 2.25\%$), and FEV1/ forced vital capacity (FVC) ($79.52 \pm 1.41\%$) in the observation group were higher than those in the control group after the intervention ($P < 0.05$).

Table 2. Comparison of pulmonary function indexes between the two groups of patients before and after intervention (mean ± standard deviation)

Group	FEV1 (%)		FEV1% projected value		FEV1/FVC (%)	
	Before	After	Before	After	Before	After
Observation group	3.05 ± 0.25	3.38 ± 0.15	65.52 ± 1.02	72.52 ± 2.25	71.02 ± 1.52	79.52 ± 1.41
Control group	3.06 ± 0.26	3.11 ± 0.02	65.58 ± 1.22	68.25 ± 1.88	71.15 ± 1.58	74.11 ± 1.02
<i>t</i>	0.1519	9.7725	1.2617	7.9766	0.2714	17.0272
<i>P</i>	0.8801	0.0000	0.0714	00.000	0.0945	0.0000

3.3. Comparison of hospitalization time and TCM symptom score between the two groups of patients

As shown in Table 3, the hospitalization time and TCM symptom score of the observation group were lower than that of the control group ($P < 0.05$).

Table 3. Comparison of hospitalization time and TCM symptom scores of patients between the two groups

Group	Cases, <i>n</i>	Length of hospitalization (d)	TCM symptom score (point)
Observation group	30	12.16 ± 1.02	4.12 ± 1.26
Control group	30	19.13 ± 1.18	7.11 ± 1.17
<i>t</i>		24.476	9.525
<i>P</i>		0.000	0.000

4. Discussion

According to relevant research, COPD is a relatively common respiratory disease that is prone to recurrent episodes and is associated with a series of postoperative complications, which seriously affect the patient's quality of life and physical and mental health. In acute exacerbation, it is crucial to implement effective nursing care^[4,5].

Chinese medicine nursing refers to the nursing program implemented under the guidance of TCM to carry out several nursing care for patients with acute exacerbation of COPD, such as auricular pressure bean, dietary care, and respiratory care. Auricular pressure bean is an effective method of curing the disease by stimulating the various acupoints of the patient's ear^[6]. It is a traditional therapy that uses Vaccaria seeds for the auricular pressure paste, which follows the principle of TCM disease identification and diagnosis. In TCM therapy, a certain combination of acupoints is selected according to different clinical manifestations, to adjust the function of the corresponding internal organs, meridians, qi, and blood, and treat the disease. Not only does this regulate the patient's meridian system but also regulates the patient's physiological function^[7]. In addition, TCM advocates dietary nourishment, spiritual nourishment, and other kinds of nourishment, and applies them to the care of the patient, to alleviate the patient's disease condition, increase their physique, and reduce the average number of acute exacerbations. Spleen deficiency is the main factor for patients to develop complications as it can lead to the decline of lung function^[8]. The main symptoms include phlegm and blood stasis. If left untreated, body functions will start to decline due to qi obstruction and insufficient oxygen flow throughout the body. Qi and blood can be replenished by using decoctions consisting of angelica, wolfberry, mint, and other drugs^[9]. Acupuncture point pressure is commonly used in TCM by applying traditional Chinese medicine to the corresponding acupoints of the human body, which can dredge meridians, activate blood circulation, and remove blood stasis. It can also disperse cold, remove dampness, regulate internal organs, and prevent and cure diseases. By applying pressure to acupoints such as the large vertebrae, Tianchu, Zhichuan, Zusanli, Piyu, Xinyu, and Bilateral Feishu. The overlapping effects of drugs and acupoints can regulate the lung qi and control symptoms of the disease effectively. The joint application of TCM and nursing measures can significantly improve the nursing effect^[10,11].

This study showed that the PaO₂ (9.52 ± 1.02 kPa) and PaCO₂ (5.01 ± 1.02 kPa) of the observation group were higher and lower respectively than those of the control group after the intervention (*P* < 0.05). The FEV1 (3.38 ± 0.15%), FEV1% predictive value (72.52 ± 2.25), and FEV1/FVC (79.52 ± 1.41%) in the observation group were higher than those in the control group. The hospitalization time (12.16 ± 1.02 d) and TCM symptom score (4.12 ± 1.26) of the observation group were lower than that of the control group, there is a difference between the two (*P* < 0.05). This proves that the advantages of combined care (TCM nursing intervention, acupoints paste) are more significant compared with conventional care, which can improve the effect of nursing care, and promote the patient's recovery.

Liu *et al.* carried out a similar study with 78 patients with acute exacerbation of COPD and presented similar results ^[12]. The results of the study showed that after 1 week of intervention, the PaO₂ level of the observation group was higher and the PaCO₂ level was lower than that of the control group ($P < 0.05$). The hospitalization time and TCM symptom scores of the observation group were lower than those of the control group ($P < 0.05$). This proves that TCM nursing intervention combined with acupoint application is effective in treating patients with acute exacerbation of COPD.

5. Conclusion

Application of the combined intervention (TCM nursing intervention and acupressure) during the acute exacerbation of COPD exhibited a significant nursing effect, which is worthy of popularization and application.

Disclosure statement

The author declares no conflict of interest.

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