

Effect of Lungs Rehabilitation Based On the Exercise Ability and Quality of Life in Rural COPD Patients in Baoding

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Abstract: objectives: To explore the effects of lung rehabilitation on the exercise capacity and quality of life of patients with chronic obstructive pulmonary disease of the (COPD) in rural Baoding. Methods: 52 rural COPD patients admitted to the Fourth Central Hospital of Baoding City from October 2018 to November 2019 were randomly divided into a research group and a control group to observe the changes in exercise capacity and quality of life of the two groups. Results: The EX-SRES score, SF-36 score and 6-MWD of the study group after treatment were higher than those of the control group ($P < 0.05$). Conclusion: Pulmonary rehabilitation therapy can effectively improve the exercise capacity and quality of life of rural COPD patients in Baoding City. It has high clinical application value and can be promoted.

Chronic obstructive pulmonary disease (COPD) is characterized by incompletely reversible airflow limitation. COPD directly affects lung function and can trigger systemic reactions. It has been reported that COPD is closely related to chronic bronchitis and emphysema [1]. The clinical manifestations of COPD are long-term, repeated cough, sputum, shortness of breath, dyspnea, wheezing, chest tightness and other symptoms. Most patients with advanced disease are associated with weight loss, mental depression, and motor dysfunction. Clinical treatment focuses on treating the primary disease, correcting hypoxemia, and preventing and treating complications [2]. Clinical practice has found that the implementation of lung rehabilitation therapy for COPD patients can effectively relieve clinical symptoms, promote the recovery of lung function and improve the quality of life of patients [3]. Therefore, this article studies the impact of lung rehabilitation on the exercise capacity and quality of life of rural COPD patients in Baoding City. The reports are as follows:

1. General information and methods

1.1 General information

52 rural COPD patients admitted to the Fourth Central Hospital of Baoding City from October 2018 to November 2019 were randomly divided into a research group and a control group, with 26 cases in each group. There were 29 males and 23 females, aged 56-79 (63.24 ± 3.49) years old. The course of disease was 1-8 (3.97 ± 1.05) years. 50 cases of smoking history. Body mass index (BMI) 20 ~ 28 (23.05 ± 2.09) kg / m². There was no significant difference in natural data between the two groups of patients ($P > 0.05$).

Inclusion criteria: (1) CT examination of the lungs, according to the Global Initiative for the Prevention and Treatment of Chronic Obstructive Pulmonary Disease (GOLD) (2011 revision), which meets the clinical diagnostic criteria of COPD [4]; (2) complete clinical data, can participate in research; Clear consciousness and normal cognition; (4) Informed consent.

Exclusion criteria: (1) combined with asthma disease; (2) combined with malignant tumor or cardiovascular disease; (3) combined with organic disorders of liver and kidney and other important organs; (4) combined with complete braking.

1.2 Method

All patients were given antispasmodic, antitussive, expectorant, airway secretion removal, infection control and other treatments after admission. On this basis, the control group was given routine outpatient treatment, including oxygen inhalation, disease observation, guidance of patients with lip contraction breathing or abdominal breathing, routine health education and so on.

The research group gave lung rehabilitation treatment and formulated a scientific rehabilitation treatment plan according to the patient's condition and age, as follows:

(1) Sports training: Instruct the patient to train the body endurance and local muscles by walking, jogging, jogging, swimming, climbing stairs, brisk walking, etc. The exercise intensity and exercise time should be reasonably controlled according to the patient's condition. The initial period is 30min / time, 2 ~ 3 times / d. It is appropriate to extend the training time later. Instruct patients to keep exercising and take 6-8 weeks as a training cycle.

(2) Respiratory muscle training: Instruct patients to train specific respiratory muscles by blowing balloons, candles, etc., and also guide patients to carry out whole body breathing exercises or lip-diaphragm breathing. Lip contraction-diaphragm breathing method: Instruct the patient to sit straight on a wooden chair, relax the whole body, close the lips gently, inhale slowly and deeply through the nose for 5 ~ 8s and then hold the breath for 2 ~ 3s. When inhaling, pay attention to relax the abdominal muscles and contract the diaphragm to make the abdomen bulge. When exhaling, contract the abdominal muscles, relax the diaphragm, and sag the abdomen. 10 ~ 15min / time, 3 ~ 4 times / d.

Family oxygen therapy: Instruct patients to adhere to low-flow oxygen inhalation at home. The initial oxygen inhalation should be 1 ~ 2L / min. Later, oxygen flow can be adjusted according to the patient's condition and in accordance with the doctor's advice. Daily oxygen inhalation time is more than 15h. Continuous oxygen inhalation at night. Instruct patients and their families on the correct care and cleaning of oxygen therapy equipment and humidification bottles.

(4) Dietary guidance: According to the individual situation of the patient, formulate scientific recipes, supplement protein, vitamins, calories and trace elements to ensure a reasonable diet and balanced nutrition. Mainly to digest easily, light diet, eat less and eat more, quit smoking and alcohol, avoid spicy diet.

(5) Health education: regularly organize collective lectures and distribute health manuals to inform patients of the COPD pathogenic mechanism, treatment principles, medication, sputum discharge, and precautions, etc., emphasizing the importance of adherence to rehabilitation training and tobacco control, and improving patients' awareness of the disease, To enhance the importance of patients to the disease; invite patients who have achieved good results after treatment to appear on the scene to help patients build confidence in healing.

(6) Psychological counseling: implement psychological counseling for patients with negative emotions such as anxiety, depression, and fear, and guide them to relieve negative emotions by listening to music, watching TV, and participating in social activities.

1.3 Evaluation index

Use the COPD Patient Exercise Self-Regulation Effectiveness Scale (EX-SRES) to evaluate the exercise ability of the patient before and after treatment, a total of 16 items, each item is 0 ~ 5 points, the total score is 0 ~ 80 points, and the score is proportional to the patient's exercise ability. At the same time, the 6-minute walking distance (6-MWD) of the two groups of patients before and after treatment was recorded. Measurement method: Under the supervision of a nurse, instruct the patient to walk back and forth at the fastest speed within 50m, and record the patient's actual walking distance within 6min. Measure 3 times in succession and take the average value.

Use the Quality of Life Evaluation Scale (SF-36) to assess the quality of life of patients before and after treatment, including physiological function, physiological function, vitality, physical pain, emotional function, mental health, social function, overall health, 8 dimensions, total 36 items, With a score ranging from 0 to 100, the higher the score, the better the quality of life.

1.4 Statistical processing

The research data is processed by SPSS18.0 software, counting data (%) is compared with line 2 inspection, measurement data $\bar{x} \pm s$ Comparing the t test, $P < 0.05$ was considered statistically significant.

2. Result

2.1 Comparison of EX-SRES score and 6-MWD before and after treatment

After treatment, the EX-SRES score and 6-MWD of the two groups of patients were improved compared with before treatment ($P < 0.05$); the EX-SRES score and 6-MWD of the study group after treatment were higher than the control group ($P < 0.05$). See Table 1.

Table 1. Comparison of EX-SRES score and 6-MWD before and after treatment $\bar{x} \pm s$

Groups	EX-SRES Rating (points)		6-MWD (m)	
	Before therapy	After therapy	Before therapy	After therapy
Control group (n=26)	25.64±6.39	59.25±8.64	480.36±36.86	495.69±33.58
	26.27±6.48	70.36±7.51	481.27±40.69	541.72±35.97
Research group (n=26)	0.976	13.091	1.546	15.352
	0.325	0.000	0.218	0.000
<i>t</i>				
<i>P</i>				

2.2 Comparison of SF-36 score before and after treatment

The SF-36 score of the two groups of patients after treatment was improved compared with that before treatment ($P < 0.05$); the SF-36 score of the research group after treatment was higher than that of the control group ($P < 0.05$), see Table 2.

Table 2. Comparison of SF-36 scores before and after treatment $\bar{x} \pm s$, point

Groups	SF-36			
	Before therapy	After therapy	<i>t</i>	<i>P</i>
Control group (n=26)	58.36±5.13	69.64±6.07	10.546	0.000
Research group (n=26)	59.42±4.81	83.41±6.27	15.641	0.000
<i>t</i>	0.927	8.699		
<i>P</i>	0.511	0.000		

3. Discussions

The incidence of COPD is high, and the patient has a progressive exacerbation after the disease [5]. Based on the characteristics of the patient's condition, lung rehabilitation treatment develops a personalized treatment plan for the patient. Through comprehensive interventions such as health education, psychological care, sports training, respiratory muscle training, and home oxygen therapy, the patient can effectively reduce symptoms and improve the lungs. Function [6-7]. Among them, breathing training can promote gas exchange, relieve respiratory muscle fatigue and improve

respiratory function; exercise training classes enhance patients' exercise endurance and delay disease progression [8-9]; health education can help patients correctly understand diseases, enhance patients' self-care ability and social adaptation Ability; psychological counseling can improve patients' emotional state, enhance treatment confidence, enhance treatment compliance, and improve patients' quality of life [10].

Studies have shown that patients treated with lung rehabilitation have higher EX-SRES scores, SF-36 scores, and 6-MWD after treatment than those given routine care. It is suggested that lung rehabilitation treatment has a more precise clinical effect on COPD, which can promote the improvement of patients' clinical symptoms, enhance the body's exercise endurance, promote the recovery of exercise capacity, and also enhance the patient's ability to take care of himself and improve his quality of life.

In summary, lungs rehabilitation therapy can effectively improve the exercise capacity and quality of life of rural COPD patients in Baoding City. It has high clinical application value and can be promoted.

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