



## Effectiveness of Pulmonary Rehabilitation with the Qigong Wuqinxi for Chronic Obstructive Pulmonary Disease: A case study

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### Abstract

*Chronic obstructive pulmonary disease (COPD) could be a chronic and progressive disease that represents a vital public health challenge nowadays. COPD could be common lung disease. Having COPD makes it hard to breathe. There are two main sorts of COPD: Bronchitis, which involves a long-term cough with sputum. Emphysema, which involves damage to the lungs over time. Most of the people with COPD have is that the combination of both conditions. Smoking is that the main reason for this. The more an individual smokes, the more likely that person will develop disease. But some people smoke for years and never get COPD. Other risk factors for COPD are: Exposure to certain gases or fumes within the workplace, heavy amounts of secondhand smoke and pollution, frequent use of a cooking fire without proper ventilation. There are many things to alleviate symptoms and keep the disease from getting worse. Pulmonary rehabilitation can teach you more about the disease, train you to inhale in a unique way so you'll be able to stay active and feel better and keep you acting at the best level possible. We describe the effectiveness of pulmonary rehabilitation together with Qigong Wuqinxi in a 53 years old male patient. The aim of this case study is to judge the rehabilitation efficacy of Wuqinxi for COPD.*

**Keywords:** *Chronic obstructive pulmonary disease, pulmonary rehabilitation, case study, Wuqinxi, Qigong.*

### Introduction

Chronic obstructive pulmonary disease (COPD) may be a chronic and progressive disease characterized by persistent respiratory symptoms and airflow limitation that's together with airway or alveolar abnormalities. From 1990 to 2015, the prevalence of COPD increased by 44.2%, it's the fourth leading reason for death nowadays, but it'll be the 3rd by 2020<sup>1,2</sup>. Therefore, COPD represents

a crucial public health challenge. The management strategy for stable stage isn't limited to pharmacologic treatments and will be complemented by appropriate non-pharmacologic interventions<sup>3</sup>. Study suggests that patient's advantage from pulmonary rehabilitation exercises and these rehabilitative means maybe difficult to generalize to reality<sup>4</sup>. Within the current definitions of Qigong, it's the skill of

body-mind exercise that integrates the three adjustments of body, breath, and mind into one<sup>5</sup>. Wuqinxi, could be a five-animal exercises, is taken into account mutually of the foremost widely practiced kinds of traditional Chinese Qigong that developed from the I-Ching philosophy and Traditional Chinese Medicine theory<sup>6,7</sup>. It had been created by Chinese well-known physician Huatuo in Donghan Dynasty. He carefully observed the activity characteristics of 5 animals: bear, tiger, ape, deer, and bird, and composed the set of actions integrated with the mixture of human body functions and also the mechanism<sup>8,9</sup>. It's characterized by interplay between symmetrical physical postures and movements, breathing control, a meditative state of mind, and mental focus during a harmonious manner<sup>6,7,10</sup>. It aims to realize a harmonious flow of blood and fluid throughout the body by long-term practicing to alleviate pathological stagnation and regulate the functional activities of meridians and visceral organs, with regular exercise of the structured postures or movements, moreover as concentration on mind and breath, Patient can do efficiency of body relaxation and mind calm to experience mood stabilization and improved strength and fitness<sup>11, 12,13,14,15</sup>. Another feature of this exercise doesn't rely on place, equipment, sex, or different age levels<sup>10,11,12</sup>. By mimicking the postures, movements and bearing of the animals, together with their corresponding breath adjustment, person will experience opening of the channels and network vessels, strengthening of the inner organs and activation of the joints. This study is to look at the results of WQX on the physical and psychological capacities for COPD patient.

## Case Study

### History

We describe a 53 year old male patient. His height was 162 centimeters, weight 58 kilograms and body mass index (BMI) was 22.1. The patient was seen by a female physiotherapist and enrolled for daily treatment. He was referred for physiotherapy

by a general physician and diagnosed as a case of COPD. He complained of difficulty in breathing. He belonged to a middle socioeconomic class and fair family and social support. He was a chain smoker since the age of 20 years. He accustomed have 25-30 cigarettes per day, along with that he had a history of long term cough without mucus and plenty of a times having shortness of breath. He had no history of strenuous activity, trauma or similar complaint within the past.

### Physical Examination

He was a skinny man, body built Ectomorph. His vital signs were as follows: blood pressure 110/60 mmHg, heart rate 110/min, temperature 98.7°F, respiratory rate 34 breaths/min, oxygen saturation 81% on room air. His spirometry results showed FEV1 of 1.56 L, 30% of predicted (predicted FEV1 is 3.07 L), FVC of 2.28 L, and FEV1/FVC ratio of 0.68 (68%). He was using accessory muscles of respiration. Auscultation of the lung revealed ronchi. He had no cyanosis or edema. The remainder of the examination was unremarkable.

### Procedure

Ethical approval was granted from the Institutional Ethical Committee and also the patient gave an informed written consent. His demographic data, physical examination was noted. He was treated with bronchodilator and corticosteroid medications, pulmonary rehabilitation therapies, physical exercises and diaphragmatic breathing exercises. After this he received Qigong Wuqinxi for fifteen days (Fig.1). He was advised to take rest, avoid strenuous activity, avoid lifting heavy weights, quitting smoking. After fifteen days, his spirometry results were as follows: FEV1 of 2.65 L, FVC of 3.20 L, and FEV1/FVC ratio of 0.82 (82%). Along with that his use of accessory muscle of respiration was also reduced.



**Fig.1** Qigong Wuqinxi

### Discussion

The Qigong Wuqinxi can combine the body movements, the breathing and aspiration and the psychological adjustment together harmoniously. Also, values the regulation of the breathing and aspiration, requiring an enhancement to the breath depth and cycle, and trying to succeed in a fine, deep, long and balance target as far as possible<sup>7</sup>. This exercise can effectively improve the lung function and dyspnea symptom of COPD patient, and increase the movement ability, prevent disease development, ease or prevent the decline of lung function; improve exercise ability and life quality and reduce death rate.

### Conclusion

This case study will generate the latest evidence for determining whether Wuqinxi has a positive rehabilitation effect for COPD.

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