Medication Patterns of Traditional Chinese Medicine for Chronic Obstructive Pulmonary Disease: A Real-World Data Analysis

Wei Ouyang[1], Jianjun Zhang[1], Yunfeng Lai[2], Shengqi Chen[3], Shulian Zhu[4], Jianyong Qiu[1]

[1]Guangdong Provincial Second Hospital of Traditional Chinese Medicine, Guangzhou, China

[2]Guangzhou University of Chinese Medicine, Guangzhou, Guangdong, China

[3]AstraZeneca Pharmaceutical Technology (Beijing) Co., Ltd., Beijing, China

[4]Unicom Shuzhi Medical Technology Co., Ltd., Guangzhou, China

Objectives

To investigate real-world traditional Chinese Medicine (TCM) treatment patterns for distinct syndrome types of chronic obstructive pulmonary disease (COPD), and to inform clinical decision-making for rational herbal prescription use.

Methods

We retrospectively analyzed clinical data of COPD patients treated at Guangdong Second Traditional Chinese Medicine Hospital from January 2020 to December 2023. Patient demographics, diagnoses, treatment regimens, and prescriptions were extracted. Analytical methods included frequency analysis, property-flavor-meridian categorization, association rule mining, and hierarchical clustering to identify core prescription patterns across syndrome types.

Results

Among 161 patients classified under the "phlegm and dampness obstructing the lung" type, the five most frequently prescribed herbs were Pinelliae Rhizoma, Poria, Perillae Fructus, Glycyrrhizae Radix et Rhizoma, and Raphani Semen. Two core herbal combinations emerged: "Perillae Fructus–Sinapis Semen–Raphani Semen" and "Pinelliae Rhizoma–Magnoliae Officinalis Cortex–Poria–Citri Reticulatae Pericarpium–Perillae Folium". For the 105 patients with "phlegm and heat congesting the lung" syndrome, the top five herbs were Poria, Glycyrrhizae Radix et Rhizoma, Scutellariae Radix, Trichosanthis Semen, and Ophiopogonis Radix, with a core combination of "Mori Cortex–Poria–Trichosanthis Semen–Scutellariae Radix". In the 101 patients with the "phlegm and blood stasis obstructing the interior" type, frequently used herbs included Glycyrrhizae Radix et Rhizoma, Chuanxiong Rhizoma, Salviae Miltiorrhizae Radix et Rhizoma, Persicae Semen, and Angelicae Sinensis Radix. The key combination identified was "Coicis Semen–Persicae Semen–Phragmitis Rhizoma–Benincasa Semen".

Conclusion

TCM treatment of COPD exhibits diverse syndrome-based medication patterns, with "phlegm-turbidity obstructing the lung" as the predominant clinical presentation. Frequently used herbs are primarily sweet or pungent in flavor, warm or cold in nature, and commonly target the lung and spleen meridians. The identification of core herbal combinations provides valuable insights into syndrome-specific treatment strategies and supports evidence-based clinical TCM practice in managing COPD.