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Research Progress on Palliative Care in Patients with Chronic Obstructive Pulmonary Disease

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Abstract: ***Chronic Obstructive Pulmonary Disease (COPD) has become one of the most common chronic diseases in the world, seriously affecting the physical and mental health and quality of life of patients. Palliative care can relieve the symptom burden of COPD patients and improve their quality of life. This article reviews the current status and content of palliative care for patients with advanced COPD and analyzes the factors affecting the implementation of palliative care, in order to provide reference for the development of palliative care for patients with advanced COPD in my country.***

Keywords: Chronic obstructive pulmonary disease, Palliative care, Research progress, Review**.**

1. Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a chronic respiratory disease characterized by restricted airflow and difficulty breathing [1]. According to Chinese lung health research, there are about 100 million COPD patients in China, of which the prevalence rate of those over 20 years old is 8.6%, and the highest is 13.7% over 40 years old [2,3]. Global research on the burden of disease shows that COPD has become the third largest cause of death in our country, resulting in 1.04 million deaths in 2019 [3]. The late stage of COPD is often accompanied by various complications such as dyspnea, pain, anxiety and depression, which further increases the burden on the disease. Both the GOLD 2024 Revised Edition and WHO recommend the application of palliative care in the terminal stage of COPD patients to reduce the pain of patients and their families and improve their quality of life [4,5]. This paper reviews the palliative care research in patients with COPD, aiming to provide scientific basis for medical professionals, formulate effective treatment strategies, and improve patients' prognosis and quality of life.

2. COPD Patients' Current Status of Palliative Care

As the aging of the population accelerates, the incidence of chronic obstructive pulmonary disease (COPD) continues to rise. Patients with advanced COPD generally have severe physiological and psychological comorbidity burden. Studies have shown that 96% of patients have symptoms of weakness or fatigue, 98% have chronic dyspnea, and 70% have persistent pain [6]. Compared with patients with malignant tumors, patients with advanced COPD suffer from more lasting disease burden, with an incidence of anxiety and depression of up to 62.5%, significantly reduced quality of life, and shortened life expectancy by 4-6 years [7]. The best clinical treatment plan for the disease can partially alleviate the symptoms of chest tightness, dyspnea, cough and sputum, etc., but patients with advanced COPD still face repeated pain and anxiety as well as other physiological and psychological difficulties [8]. At this time, the palliative care model with symptom control as the core and taking into account psychosocial support has become an important nursing plan to improve the quality of life of patients with advanced COPD.

The palliative passport model for patients with advanced chronic diseases has formed a relatively mature practice system abroad. The National Hospice and Palliative Care Organization (NHPCO) of the United States has clearly included COPD in the scope of palliative care services since 2008 [9], with evidence indicating that early intervention reduces emergency medical treatment rates by 43% and extends median patient survival by 3.2 months. Systemic palliative care interventions have been shown to increase dyspnea relief by 58% [10], improve depressive mental states by 67% [11], and reduce medical expenses by 28% [12]. Establishing a multidisciplinary collaborative palliative care team has been demonstrated to enhance both quality of life and disease symptom management in patients with advanced COPD. It plays an important role in achieving the optimization of medical resources. In China the area of Taiwan, research found that [13], compared with cancer patients, patients with advanced COPD have a relatively lower demand for palliative care. There are currently few studies on COPD palliative care in China. research shows [14] explored the unmet palliative care needs of 108 patients with advanced COPD, and found that 81.5% still had unmet needs. research found that [15] the actual acceptance rate of palliative care among COPD patients is less than 17%. To better control symptoms and manage the pain and quality of life of COPD patients, it is necessary to provide them with more professional palliative care services. However, due to China's traditional ethical norms and low acceptance of the palliative care model by patients and their families, a localized palliative care model needs to be developed. Additionally, medical staff training, professional guidance, and public education are required to facilitate further research and coordinated implementation.

3. COPD Patients' Palliative Care Needs Analysis

3.1 Need to Relieve Symptoms

Dyspnea and pain are the most common and severe symptoms

in patients with advanced COPD. Relieving pain and dyspnea is also a key goal in managing COPD and an important factor in improving patient survival and quality of life [16]. Current research shows that an effective way to improve dyspnea symptoms in patients is to reduce the respiratory system's neuromuscular dissociation through drug treatment and non-pharmaceutical intervention methods such as inspiratory muscle training and exercise training, further controlling the symptoms of dyspnea in patients with end-stage COPD [17]. studied and analyzed the improvement of respiratory training on the symptoms of dyspnea in patients with advanced COPD [18]. The results showed that PLB respiratory training can effectively alleviate the degree of dyspnea in patients with COPD, improve the quality of life of COPD patients, reduce physical pain and relieve anxiety. When taking care of patients with advanced COPD, it is necessary to provide multidisciplinary and multi-professional dyspnea support services to maximize the control of the patient's dyspnea condition.

The GOLD guideline suggests that pain, as one of the core symptoms of advanced COPD, will directly affect or reduce the patient's functional status and quality of life [19]. With frequent pain in patients with advanced COPD, it is closely related to the progression of the disease or the occurrence of multiple complications (such as osteoporosis and muscle atrophy). The incidence rate can reach 70% [19], and it will also form a symptom cluster with dyspnea, anxiety, and depression, increasing the overall burden on the patient [20]. Drug treatment is an important means to control pain in advanced patients. Timely adjustment of doses according to the WHO three-stage dosing principle can reduce the pain score of 78% of patients by ≥50%, while reducing the risk of respiratory depression by 23 [20]. Correct combination of non-drug treatment methods can more accurately control the patient's pain symptoms and reduce adverse reactions. Study have shown that [21] the full combination of non-pharmacological treatment (such as respiratory training, cognitive behavioral therapy) and family-participated care and other measures to manage pain symptoms can effectively improve patients' pain control satisfaction with 33%. Elderly and frail patients should pay strict attention to the use of opioid [22]. If necessary, topical patches can be used instead of oral drug preparations to avoid adverse drug reactions such as constipation. For the control of symptoms such as dyspnea and pain in patients with advanced COPD, a multidisciplinary palliative care team can be established in the process of clinical practice, and medical staff and patients and their families work together to make decisions. Through dynamic evaluation of professional symptom scales, an individualized symptom management model can be effectively formulated to alleviate the pain and discomfort caused by the disease in patients.

3.2 Pulmonary Rehabilitation Training Requirements

The Global Initiative for Chronic Obstructive Pulmonary Diseases (GOLD) proposes that non-pharmaceutical treatment should be used for COPD patients as soon as possible to reduce the patient's mortality rate and improve the quality of lif [23]. Pulmonary rehabilitation, as an important measure for end-stage treatment of COPD patients, can effectively reduce dyspnea in patients with COPD, improve physical function, and improve patients' quality of life. studied shown that 153 COPD patients who underwent pulmonary rehabilitation [24] and found that, compared with simple lip-retracting and abdominal breathing training, the FVC, FEV1/FVC, and MVV in the study group increased; the mMRC score decreased; and the blood gas analysis indicators improved. These results indicate that pulmonary rehabilitation training improves lung function in COPD patients and can further enhance the quality of life of patients with advanced COPD. research shows [25] conducted pulmonary rehabilitation training on patients with moderate to severe COPD and found that such training alleviates respiratory dizziness, improves exercise endurance, and enhances self-management levels. When providing sedative care to patients with advanced COPD, attention should be given to pulmonary rehabilitation training. Further improvements in lung function rehabilitation exercises should be tailored to the patient's condition and personalized needs, with corresponding rehabilitation exercise plans formulated. Patients should be guided to use multiple modalities to extend survival time and reduce physical or psychological symptom burden.

3.3 Psychological Support Needs

In the end stage of COPD, due to severe breathing difficulties, pain, sleep problems, and the progressive changes in the condition, patients often develop psychological symptoms such as depression, anxiety, and lonelines [26]. research shows [27] conducted a prospective study to evaluate the impact of psychological symptoms (e.g., depression and anxiety) on survival rate, disease recovery, and prognosis in patients with end-stage COPD. Studies have shown that psychological states such as depression and anxiety aggravate clinical responses (e.g., dyspnea and pain) in advanced COPD patients, increase mortality rates, and cause further physical suffering, psychological distress, and loss of confidence in disease recovery and life. Under the influence of disease progression, poor prognosis, and unfavorable outcomes, patients with advanced COPD often struggle to accept their status quo, leading to negative emotional states such as depression, anxiety, and fear. These psychological symptoms typically coexist with disease-related pain, exacerbating the patient's overall burden. research found that [28] further verified that anxiety and depression correlate with adverse outcomes in prognosis and rehabilitation for patients experiencing acute exacerbations. Their research demonstrated that depressive symptoms worsen physical symptoms (e.g., dyspnea, pain) in advanced COPD, reduce quality of life, and increase hospital readmission rates. Therefore, when providing sedative care for end-stage COPD patients, clinicians should prioritize screening for negative emotions. Nursing staff must promptly assess psychological states, identify distress, and implement tailored comfort measures or psychotherapy to improve mental health outcomes.

3.4 Grief Counseling Needs

grief counseling is also one of the main contents of palliative care for patients with advanced COPD. Professionals help patients with advanced COPD or bereaved families develop normal sadness responses, which can effectively alleviate the

fear and grief caused by the death of relatives [29]. The systematic implementation of grief aid primarily includes dynamic assessment of counseling timing. Patients with advanced COPD and their families experience intensified grief due to prolonged disease progression and recurrent acute exacerbation [30]. Medical staff need to promptly identify anticipatory grief during sedative care and enhance support for terminally ill patients or bereaved individuals. Stratified intervention strategies for bereaved families should address the irreversible functional decline in advanced COPD, which leads to chronic sorrow states. Subsequent traumatic experiences during acute exacerbations and psychological stress accumulation further exacerbate grief-related mood disorders [31]. demonstrated that active mourning counseling with families reduces anxiety/depression-related psychological stress risks [32]. provided bereaved families with emotional venting and companionship through compassionate care, effectively delivering grief counseling and emotional support. Current research on grief counseling for advanced COPD patients and caregivers remains limited, predominantly focusing on grief disorders in emergency departments [33] or adolescent populations [34]. In China, most grief counseling for bereavement is provided by patients' relatives, while medical staff lack standardized training in this domain. Nurses require further education regarding optimal counseling timing assessment and detailed intervention plan development for grief management.

4. Multidimensional Influencing Factors of Palliative Care Implementation in COPD Patients

4.1 Disease and Patient Factors

Advanced COPD disease develops rapidly and is accompanied by the occurrence of systemic symptoms, such as decreased appetite, difficulty breathing, dysfunction, depression, and anxiety, which cause serious physical and psychological damage to patients [35]. study found that psychological symptoms such as anxiety and depression are key factors influencing care delivery for COPD patients. Factors such as a long course of illness, rapid deterioration, long-term treatment, and heavy economic burden in advanced COPD patients can impose psychological burdens, affecting the implementation of palliative care services [36]. Medical staff should prioritize monitoring the mental health status of advanced COPD patients, promptly identifying and alleviating negative emotions, and providing timely psychological interventions to reduce the incidence of anxiety and depression.

Advanced COPD patients struggle to predict their survival time and demonstrate low awareness of palliative care. Currently, the lack of unified standards for domestic palliative care development has led to poor patient understanding of its purpose, significance, and importance. Influenced by traditional beliefs, patients seek hospital care with hopes of curing the disease and prolonging survival. However, when the disease becomes incurable and chronic, most patients and families opt for discharge or transfer to other medical institutions for continued treatment. Additionally, insufficient community medical resources limit access to professional palliative care support.

4.2 Social Moral and Ethical Dilemmas

Influenced by China's traditional culture and ethical concepts, many patients and their families are reluctant to discuss death. The concept of "rebirth and avoidance of death" in traditional Chinese culture has profoundly influenced the acceptance of palliative care by COPD patients and their families. Confucian culture emphasizes "filial piety," with family members often regarding life-prolonging measures as an ethical obligation, preferring aggressive treatment over palliative interventions [39]. This cultural preference frequently leads to delayed initiation of palliative care. over 60% of families of advanced COPD patients refused to discuss advance care planning (ACP) due to concerns about the ethical controversy surrounding "treatment withdrawal," which exacerbates passivity in symptom management [40]. Further more, there exists a public cognitive bias towards palliative care, which is commonly equated with "negative awaiting of death." This misconception overlooks its core concept of quality-of-life enhancement and further diminishes social acceptance [14]. The conflict between family-centered collective decision-making and patient autonomy presents additional ethical challenges. Medical decisions in China predominantly follow a family-centered model, where patients' personal preferences are frequently marginalized. research shows revealed that only 23% of advanced COPD patients could independently participate in treatment decisions, while most families practiced protective nondisclosure [14]. Although this well-intentioned concealment aligns with traditional ethics, it violates the palliative care principle of respecting patients' right to informed consent and exacerbates physician-patient communication barriers.

Moreover, an inadequate social support system further restricts palliative care accessibility. Community healthcare institutions lack specialized palliative care teams, and most home caregivers receive no systematic training, compromising their ability to manage complex symptoms in terminal-stage patients [41].

4.3 Barriers to Palliative Care Implementation

Currently, palliative care remains underutilized in managing symptoms of advanced COPD, including dyspnea, pain, diminished lung function, and psychological comorbidities such as anxiety and depression. Healthcare professionals play a pivotal role in delivering palliative care to this patient population. Their attitudes toward palliative interventions significantly influence whether patients with advanced COPD can effectively benefit from palliative care to alleviate symptoms and improve clinical outcomes. nationwide study in the Netherlands surveyed 435 healthcare professionals [37], revealing that while most physicians acknowledge palliative care's efficacy in end-stage COPD management, standardized implementation frameworks remain lacking. Moreover, the primary obstacle clinicians face when initiating palliative care for advanced COPD patients is the disease trajectory's inherent unpredictability. This clinical uncertainty underscores the need for structured guidance and protocol-driven practice standardization during palliative care delivery. Australasian study surveyed 440 healthcare professionals, with 80.9% expressing willingness to provide

COPD-focused palliative care [38]. However, some physicians continue to advocate for specialist-led palliative care in dedicated settings. Although most clinicians recognize palliative care's importance for advanced COPD, the absence of standardized protocols has hindered practical implementation. Current research provides limited guidance on optimal healthcare provider attitudes toward palliative care in COPD management, warranting further investigation. Notably, while healthcare professionals generally acknowledge palliative care's critical role – particularly for advanced COPD – implementation challenges persist due to insufficient specialized infrastructure and standardized frameworks. Future directions should emphasize enhancing palliative care competencies through professional training programs and advancing clinical applications of the palliative passport model.

4.4 Context-Specific Barriers to ACP in Chinese COPD Care

Advance Care Planning (ACP) is a structured communication process between healthcare professionals, patients, and families. When patients retain decision-making capacity, healthcare teams should discuss disease prognosis and treatment options, formulating individualized care plans to guide future medical decisions when patients lose decision-making ability. Study identified barriers to ACP implementation in COPD management, highlighting clinicians' insufficient ACP training, lack of standardized protocols, and patients' poor understanding of COPD prognosis [39]. The absence of prognosis-focused communication between clinicians and advanced COPD patients further impedes ACP establishment, resulting in clinical implementation gaps. cluster-randomized controlled trial demonstrated that [42] caregiver-led ACP interventions significantly enhanced physician-patient end-of-life communication quality in COPD populations. Notably, although China's Healthy China 2030 policy advocates palliative care promotion, implementation remains suboptimal due to inadequate legal safeguards for patient autonomy and low (<10%) prevalence of advance directives (ADs) [40]. To address these challenges, future strategies should establish culturally-appropriate ethical frameworks through multidisciplinary ethics committees, public death education campaigns, and policy refinement.

5. Discussion

The current implementation of palliative care passports for end-stage COPD patients in China faces multidimensional challenges. Foremost are cultural barriers rooted in traditional death taboos and Confucian ethics emphasizing "filial piety" and "humanistic care." These sociocultural factors contribute to public death literacy deficits, resulting in insufficient awareness of palliative care concepts among COPD patients and their families – a key determinant of low service acceptance [42]. Furthermore, systemic limitations persist, including the absence of standardized palliative care protocols for chronic disease management and inadequate specialized training programs for end-stage care providers. This workforce competency gap directly impacts service accessibility, leaving many COPD patients without structured palliative support.

Notably, palliative care development for advanced COPD lags behind oncology practices in China. Disease-specific challenges – characterized by unpredictable exacerbations, prolonged disease courses, and rapid functional decline – further complicate patient/family understanding of palliative interventions. Compounding these issues are critical resource shortages: limited specialized palliative care facilities, a sparse workforce of trained providers, and the absence of validated COPD-specific prognostic tools. To address these gaps, future research must prioritize two key areas: (1) early integration of advance care planning (ACP) systems to optimize symptom control and quality of life, and (2) development of culturally-adaptive palliative passport frameworks tailored to China's healthcare ecosystem.

Strategic interventions should concurrently enhance palliative care literacy through multilevel education campaigns targeting the public, patients, families, and healthcare professionals. Institutional reforms – including standardized training curricula, specialized service networks, and policy support for advance directives – are essential to scale palliative care delivery. Through sustained research and health system strengthening, China can establish evidence-based, patient-centered palliative care models for its growing COPD population.

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