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ADDRESSING MENTAL HEALTH CHALLENGES IN PATIENTS WITH CHRONIC RESPIRATORY CONDITIONS

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Abstract

Patients with chronic lung disease often face a difficult journey with progressive physical symptoms and significant emotional or psychological burdens. Great advances have been made in addressing the physical challenges of these conditions, with innovations addressing some of the physical symptoms and the appearance of a broader range of multidisciplinary professionals in chronic care services. However, the broader multidisciplinary expertise available in secondary care may not always be fully reflected in the primary care setting. Furthermore, many of the mental health challenges with chronic respiratory conditions are not as well recognized as in other physical illnesses, although they can be associated with considerable distress and a subsequent increase in healthcare usage in an already resource-squeezed system. In this review, we discuss the link between chronic lung disease and mental health and the importance of addressing this as part of a holistic approach to these patients. We also review current guidelines and evidence-based treatments and management guidance that are available for use by primary care teams to help support the mental health of patients with chronic lung disease and their carers.

1.2 **Keywords**

Chronic respiratory conditions, such as chronic obstructive pulmonary disease (COPD), asthma, and lung cancer, are associated with a high level of comorbidity in the form of mental health sub-symptoms, symptomatology, and full-blown conditions. However, the overwhelming focus on preventing lung function decline and disease flares means that these symptoms are often

overlooked in the clinic, leading to less than optimal care. Despite this problem, most clinicians do not receive the required training to diagnose and manage mental health comorbid symptoms; many may lack the confidence to raise the issue, and there is insufficient availability in settings allowing for further referral.

An abundance of evidence has demonstrated strong correlations between a variety of such comorbid conditions and lung health outcomes, such as increased lung function decline, more frequent lung flares, and re-hospitalization in some groups. However, despite this evidence, the headline outcome for mental health interventions remains inconsistent. Furthermore, calculating the added clinical and economic potential gains associated with improved mental health management to prevent the onset of comorbid conduct disorders is imperative too and is rarely carried out. Finally, simply asking whether these problems are just 'part and parcel' of living with a chronic respiratory condition and, as a result, should be ignored, represents a very real, but unacceptable, level of 'diagnostic overshadowing'.

1.3 1. Introduction

Recent studies have established a clear link between chronic respiratory conditions and mental health outcomes. This association is of particular concern given that chronic respiratory conditions are among the most prevalent health problems, contributing substantially to morbidity, mortality, and disability among affected individuals. In addition to the increased risk for depression and anxiety, patients with chronic respiratory conditions often experience co-morbid cognitive impairments. This has led to the identification and treatment of mental health disorders as core components of medical care for chronic respiratory conditions. However, because many individuals with chronic respiratory conditions are unaware of this tangible relationship, they may not seek appropriate mental health care when needed. Those who remain untreated exhibit worsening respiratory symptoms and poorer quality of life. Co-morbid mental health disorders present a challenge to diagnosis, clinical management, prognostication, and the overall interdisciplinary training of patients with chronic respiratory conditions. Likewise, health system reorganization and simplification of care processes have led to decreased access to multi-disciplinary services, which allow for simultaneous and patient-tailored interventions. The health sector feels ill-equipped to address the growing demands of teams for structured evaluation and interventions for patients with chronic respiratory issues who also suffer from co-morbid mental health disorders. Therefore, we aim to bring together and provide some practical, evidence-based clinical tools that health professionals can easily use in their daily practice for the management of patients with chronic respiratory conditions and co-morbid psychiatric disorders. (Bobo et al.2022)

1.1. Background and Rationale

The management of physical and mental health comorbidities has been identified as a priority in patients with chronic respiratory diseases. These comorbidities increase dyspnea, accelerate the decline in lung function, reduce physical activity, and worsen the specific outcomes of these patients. Mood disorders are the most prevalent mental health conditions in patients with chronic respiratory diseases, and both mental health and neurological disorders cause an important public health issue and a significant global disease burden. These chronic respiratory diseases are independently associated with increased odds of anxiety or depression. Recognition of mental health and neurological disorders is essential to provide comprehensive health care to all individuals with chronic respiratory diseases, and several instruments can be used in patients with chronic respiratory diseases in the primary care setting. (Dafauce et al.2021)

We hypothesize that the identification and treatment of mental health challenges in all patients with chronic respiratory conditions, based on the principles of our biopsychosocial model of care, would lead to better short-term and long-term outcomes for these individuals. Our teams have previous experience in creating holistic models of care and interventions for patients with chronic respiratory conditions, aiming to improve specific outcomes, namely, adherence to long-term medication use after an acute crisis, physical activity and exercise, dyspnea, and overall health-related quality of life, as well as return to work and/or previous levels of activities of daily living. Our design is based on 20 years of experience in large clinical and investigational work with patients with chronic respiratory diseases, long-term expertise in the identification and treatment of mental health challenges in both adults and children and adolescents, and the recognition of an evident gap that needs to be filled. Our proposal follows the principles defined by a relevant group, which supports us and is prepared to actively collaborate with this consortium. (Halpin et al.2021)

1.4 2. Understanding the Relationship Between Chronic Respiratory Conditions and Mental Health

The interplay between mental health and chronic respiratory diseases (CRD) is notable. Patients with CRDs often have a high prevalence of mental health challenges. Inversely, patients with mental disorders may have an increased vulnerability to CRDs. Anxiety, depression, and psychiatric morbidity are common in patients with chronic respiratory diseases. Patients with chronic respiratory diseases may have an increased stress level related to various aspects of life, the severity of the disease, an increase in levels of medications and their side effects, limitations in performance and activities, hospitalization periods, and uncertainty about the future. Several studies have reported a notable distress level in patients with COPD, and among them, the elderly suffering from anxiety and phobia are noteworthy. A significant level of depression and a high suicidal tendency are observed in chronic hypoxemic patients with chronic obstructive pulmonary disease. (Aveyard et al.2021)

The relationship between chronic hypoxemic state and depression is unclear. Depression symptoms may be appreciated simply as dyspnea and are not assessed as such. Patients with COPD are prone to develop anxiety and depression. The etiology of anxiety and depression in COPD is considered to be multifactorial, stemming from psychosocial aspects like the chronic hypoxemic state, increased breathlessness, carbon dioxide retention, day-night variations in respiratory function, exacerbations, length of disease, limitations in daily activity, social and mental role restrictions, and drug effects with corticosteroids, theophylline, and benzodiazepines. Overlap syndrome of obstructive sleep apnea and COPD is associated with an enhanced rate of depression symptoms. Anxiety is powerful as an independent predictor of both the quality of life and the decline of lung function in COPD. (Yohannes et al.2022)

2.1. Biological Mechanisms

The biological mechanisms underlying the co-occurrence of chronic respiratory disease, anxiety, and depression are poorly understood, but long-term hypoxia and exacerbations of the underlying condition likely play a role. Patients with COPD often report a very reduced quality of life during exacerbations, even when they do not have substantial dyspnea. Acute hypercapnia, which can accompany a COPD exacerbation, can also be associated with confusional states, anxiety, panic, and manic symptoms. In this instance, this could have evolved as an acute manifestation of hypermetabolism induced by the rapid increase of CO2 as opposed to hypoxia. The latter could be

related to the HPA axis, activation of extra-adrenal synthesis of cortisol, and the amygdala. (Moretta et al.2024)

Retrospective epidemiological analyses have demonstrated a bidirectional relationship between COPD and the comorbidities of anxiety and depression, which implies that biological and psychological mechanisms act in both directions over time. The presence of excessive "lung illness" (physical symptoms of COPD) could be the mediator, if not the causative element of recurrent episodes of depression in persons with COPD. This concept is certainly plausible, considering conglomerate sets of circumstances that build on a COPD diagnosis and the significant restrictiveness it has in terms of function, causing stress markers to rise quite normally within a context. To date, there has been no more concrete explanation for the complex relationship between COPD and depression. (Zhu & Chen, 2024)

2.2. Psychological Factors

Psychological distress refers to a psychological state in which the individual feels extreme inhibition or suffers from anxiety, poor sleeping, and mental fatigue. The occurrence of psychological distress can promote the debilitation and exacerbation of chronic respiratory diseases such as asthma, COPD, cystic fibrosis, and bronchiectasis, leading to more frequent exacerbations and ER visits. The lay-inhibitory phenomenon is characterized by breathing patterns that restrict airway resistance and protection through non-cooperative avoidance of the contraction of airway smooth muscle during respiration, leading to an urge to breathe, inhibiting emotional distress, and promoting the chronic increase of airway resistance with airway obstructions and progressive breathlessness exacerbation. Therefore, as the chronic respiratory diseases worsen, the comorbid psychological distress will increase exacerbation frequency and ER visits. (Hart et al.2022)

Studies have shown that the prevalence of depression and anxiety is a common problem for respiratory patients. In clinical terms, depression is likely expressed as elevated probability thresholds causing a reduction in escape responses and depression of antigravitational accessory muscle activity. Whereas anxiety is likely manifested as increased air hunger and also contributes to depressive symptoms. The general model for depression includes rumination on the negative consequences of disease, following fatigue, which jointly increases airway obstruction with dynamic lung hyperinflation during bronchoconstriction, followed by late bronchoconstriction symptoms expressed as air hunger. Following fatigue jointly increases the high density of airway smooth muscle with the burden of erosion damage. (Kong et al.2020)

1.5 3. Prevalence and Impact of Mental Health Challenges in Patients with Chronic Respiratory Conditions

Chronic respiratory conditions have major disease and economic burdens globally, as they are common, chronic, frequently incurable, and require expensive long-term management. Over the past decades, there is emerging evidence that many patients with a range of chronic respiratory conditions experience mental health challenges, which in many cases are underrecognized and undertreated. Based on available self-report and diagnostic criteria studies, the overall prevalence of anxiety and depression in patients across all chronic respiratory conditions is approximately 30%, while in chronic obstructive pulmonary disease it is 50%. (Bobo et al.2022)

The close relationship between chronic respiratory conditions and mental health challenges is complex and likely to involve multidirectional interactions between systemic inflammation,

hypoxia, psychological factors including fear avoidance, disability, increased metabolic demand that contributes to higher perceived effort, uneasiness, and poor peer relationships, among other factors. Such interactions likely lead to poor patient self-management, increased symptom burden and health service use, and ultimately increased mortality. Besides finding the high prevalence and impact of mental health challenges across a range of chronic respiratory conditions, with a particular emphasis on anxiety and depression in COPD, this review looks in detail at why patients might experience mental health challenges and how these can be addressed, with suggestions for critical research questions to drive improvement. (Goularte et al.2021)

1.6 4. Assessment and Screening Tools for Mental Health in this Population

Assessment of depression, anxiety, and panic symptoms should become part of routine clinical care for patients with chronic respiratory conditions. However, to date, no specific assessment tools or cut-off scores have been developed for this particular patient subgroup. For complex physical comorbidities, integrated and patient-centered models of mental health care are now being advanced. A first principle feature in primary care or in specialist settings (ideally both) would involve the creation of a co-located mental health care service within the respiratory clinic. A second is for better communication tools between mental health services and respiratory care settings so that shared care discussions can be arranged to support the mental health needs within existing respiratory care settings. (Walter et al.2020)

The development and implementation of evaluation and diagnostic tools are very nascent. Caution is therefore advised given the extensive comorbidity burden faced by this complex patient cohort. However, given the high prevalence of mental health symptoms reported for which tools are validated for the general population, these could be utilized within clinical care. To then understand the severity and specific impairment posed, symptoms over the lifespan, in identifying the most appropriate mental health support, a best practice model should generate an integrated assessment process. There is an emergent evidence base for mental health programs offered via telemedicine for patients with chronic respiratory disease. Furthermore, patient-led interventions that include goal setting, self-regulation, problem-solving, and better communication are most likely to enable patient activation of these outcomes.

1.7 5. Integrating Mental Health Care into Respiratory Care Settings

Providing quality care to patients with chronic respiratory conditions means addressing patient mental health needs. These individuals are at higher risk for depressive symptoms, depression disorders, anxiety symptoms, and depressive behavior. If not effectively addressed and managed, patient mental health challenges can undermine respiratory treatment effectiveness and adherence, impact care plan outcomes, worsen rates of functional impairment and disability, and increase overall health care expenses. Unfortunately, mental health problems in patients with chronic respiratory symptoms are underdiagnosed and undertreated. Integrating mental health care into respiratory care settings is essential. This chapter examines key foundational principles to inform the effective integration of mental health care into respiratory care settings. This includes cultivating a patient-centered climate within the multidisciplinary care team and the broader care delivery system, maintaining confidentiality, providing active listening to patients in order to fully understand what matters to them, and addressing patient comorbidities in partnership with specialist counselors or therapists. Integrating behavioral health competencies with respiratory care professionals is also key, including brief treatment strategies derived from evidence-based cognitive behavioral therapy. Furthermore, training the multidisciplinary respiratory care team

about common patient mood problems and distress is equally critical. This in turn includes staff education, self-monitoring, and proactive coping strategies to improve team wellness. It also involves empowering networks of informal and direct relationships with recognition facilitation and referral. Lastly, given the potential reluctance of providers and patients to seek psychological services offsite, integrating inpatient mental health professionals within the broader respiratory care environment may be an alternative solution. (Gephine et al.2021)

1.8 6. Discussion

Chronic respiratory conditions overlap with other chronic diseases and, therefore, often result in the development of comorbid disease clusters. Such clusters tend to increase the overall burden of chronic disease and are often significantly linked to a decline in physical and emotional functioning and a compromised quality of life. A common mental health condition is associated with increased symptoms and morbidity of COPD and other chronic respiratory conditions. Progressive physical limitations, the experience of suffocation, and the fear of dying during an exacerbation of COPD can lead to the development of panic disorder, resulting in panic attacks in many patients. Additionally, approximately half of the patients suffering from severe COPD also experience anxiety or depression. (Carmona-Pírez et al.2021)

The optimization of mental health and chronic disease management in patients with COPD is an essential part of an effective treatment strategy in managing such patients and achieving better health outcomes for them. It is important that mental health professionals provide management to meet the unique needs of these patients. There are currently several effective psychotherapeutic and pharmacologic treatment options available for treating COPD patients with anxiety and depression. It is important for mental health providers to be aware that effective management and treatment for such patients are available, and when these services are provided, it allows patients undergoing treatment for a respiratory condition to have improved quality of life and a better prognosis.

1.9 7. Conclusion

Chronic respiratory conditions often co-exist with comorbidities, both physiological and psychiatric. It is frequently assumed and reported that patients with respiratory conditions also have depression, anxiety and panic, complicating their overall prognosis, and requiring complex, multidisciplinary care to provide comprehensive management. This review summarizes contemporary research findings for psychiatric conditions or therapeutic associations on chronic respiratory conditions, and specifically on COPD in the elderly and bronchiectasis. It updates the current data on the most promising areas such as recognizing depression and its effect on overall outcome; yet remains concerned with the knowledge gap around the psychological barriers for decision-making for life-saving surgical procedures, like lung cancer surgery and lung transplantation. Evidence on general screening tools for depression and for the effectiveness of depression-lite interventions is especially poor and could next provide valuable data for psychiatrists and primary care medicine. (Oleynick, 2020)

Although patients express increased use of cognitive and behavioral dysfunction after suffering severe dyspnea episodes, neither anxiety/depression co-morbidity nor overall psychiatric diagnosis moderated the needed emergency assistance. Training physicians, nurses, and patients how to address potential panic-symptoms during acute exacerbations of COPD after discharge could decrease the high unanticipated readmission rate. Such concerns can sometimes fit the

description of a tunnel disease. Choosing limited therapeutic alternatives in end-stage disease may accumulate mental suffering for both the patient and family members. Mentally prepared patients and prepared relatives of lung transplantation patients show decreased anxiety and fewer complications post-operatively. Victims are made either unaware or unable to make thoughtful decisions about their medical care under certain environmental situations. Such results far exceed the psychological effects of stalled, non-vital judgments. Interventions that optimize decision-making encourage informed decisions, perceived patient satisfaction and provide mental benefit.

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