RESEARCH
O&G Forum 2024; 34 – 3s: 297-303

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) AND INTERSTITIAL LUNG DISEASE (ILD): A COMPARATIVE STUDY ON QUALITY OF LIFE

Dr. Padmaja A. Havle[1], Dr. Makarand B.Mane[2], Dr. Uddhav T. Kumbhar[3]
[1]Assistant Professor, Department of Obstetrics and Gynecology, Krishna Institute of Medical Sciences, Krishna Vishwa Vidyapeeth, Karad, Maharashtra, Email: padmaja0909@gmail.com
[2]Associate Professor Department of General Medicine Krishna Institute of Medical Sciences,
Krishna Vishwa Vidyapeeth Deemed To Be University, Karad. Email: makarand.mane@gmail.com
[3]Associate Professor, Department of Community Medicine, Krishna Institute of Medical Sciences, Krishna Vishwa Vidyapeeth, Karad, Maharashtra, Email: utkumbhar@gmail.com

Abstract
Chronic Obstructive Pulmonary Disease (COPD) and Interstitial Lung Disease (ILD) are two chronic respiratory conditions that significantly impact patients' quality of life. While both conditions share similarities in terms of symptoms and management, there are also notable differences that warrant investigation. This research paper aims to compare the quality of life in patients with COPD and ILD, examining factors such as symptom burden, functional limitations, impact on daily life, psychological well-being, and treatment challenges. Through a comprehensive review of existing literature and potentially supplemented with primary research findings, this paper seeks to provide insights into the unique challenges faced by patients with COPD and ILD and the implications for clinical management and patient care.
Keywords: COPD, Interstitial Lung Disease, Quality of Life, Comparative Study, Respiratory Disease.

I. Introduction

Chronic respiratory diseases, including Chronic Obstructive Pulmonary Disease (COPD) and Interstitial Lung Disease (ILD), represent a significant public health burden worldwide. These conditions are characterized by progressive deterioration of lung function, leading to debilitating symptoms and reduced quality of life for affected individuals. While COPD and ILD share some commonalities, such as chronic respiratory symptoms and impaired lung function, they also have distinct clinical features and underlying pathophysiology [1]. Understanding the differences in quality of life between patients with COPD and ILD is essential for optimizing treatment strategies and improving patient outcomes. Chronic respiratory disorders are a large worldwide health burden, responsible for a significant amount of morbidity and mortality, as well as enormous expenses associated with healthcare. Among these disorders, Chronic Obstructive Pulmonary Disease (also known as COPD) and Interstitial Lung Disease (also known as ILD) are particularly widespread and have a significant impact [2]. Although cigarette smoking is the primary cause of chronic obstructive pulmonary disease (COPD), other variables, such as environmental exposures, may also play a role in the development of this condition. COPD is characterized by persistent breathing restriction. On the other hand, interstitial lung disease (ILD) refers to a diverse collection of conditions that are defined by inflammation and fibrosis of the lung parenchyma. These conditions result in decreased gas exchange and limiting lung function respectively. The chronic and progressive nature of both COPD and ILD, as well as the devastating impact they have on patients' quality of life, are two characteristics that are shared by both conditions, even though their etiologies and pathophysiology's are distinct from one another [3]. The term "quality of life" refers to a multifaceted concept that incorporates not only one's physical, psychological, and social well-being, but also one's functional status and general contentment with life. Symptoms that are incapacitating, such as dyspnea, cough, exhaustion, and impaired exercise tolerance, as well as the psychological load of living with a chronic illness, can frequently have a negative impact on quality of life in the setting of chronic respiratory disorders. For the purpose of optimizing treatment options and improving patient outcomes, it is essential to have a solid understanding of the factors that contribute to the variations in quality of life that exist between patients who have COPD and those who have ILD [4].

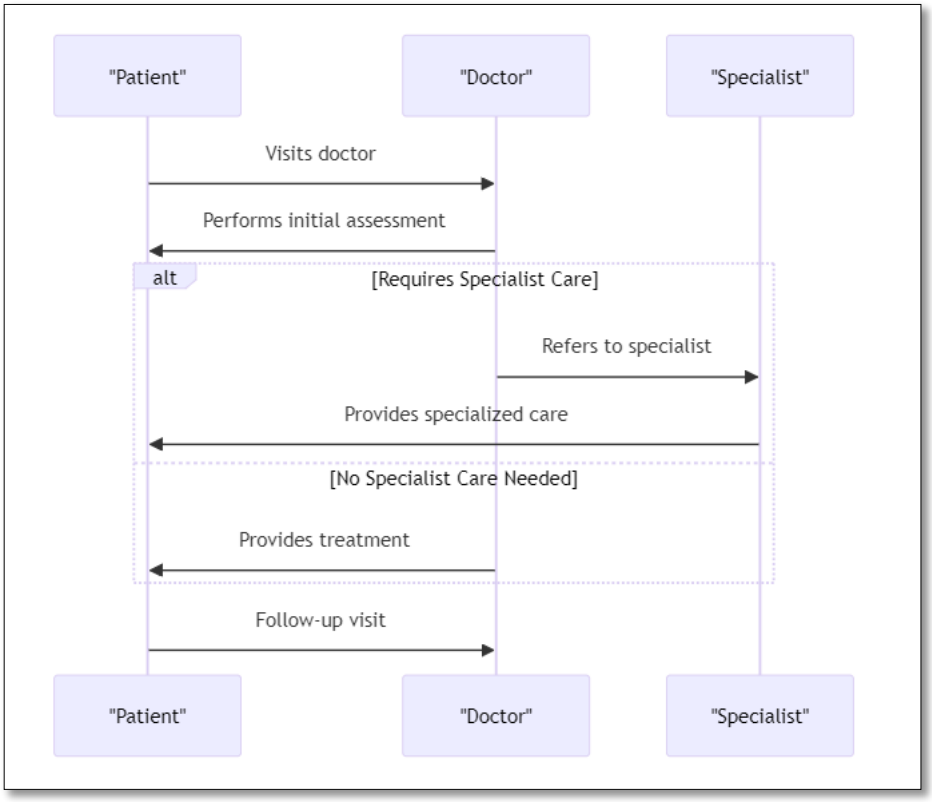

Figure 1. Depicts the chronic and progressive nature of both COPD and ILD and Patients Interaction

There are some symptoms and implications that are shared between COPD and ILD; however, there are also clinical characteristics and disease trajectories that are separate between the two. Chronic obstructive pulmonary disease (COPD) is defined by chronic airflow limitation, which is often the result of a combination of small airway disease (a condition known as chronic bronchitis) and parenchymal deterioration (emphysema). Symptoms that patients with chronic obstructive pulmonary disease (COPD) frequently suffer include persistent coughing, the production of sputum, and worsening dyspnea [5]. These symptoms can have a major influence on the patients' ability to carry out activities of daily living and maintain social connections. ILD, on the other hand, is principally characterized by its impact on the interstitial of the lungs, which results in inflammation, fibrosis, and poor gas exchange. Interstitial lung disease (ILD) is characterized by a common pathologic pattern of interstitial inflammation and fibrosis, even though it arises from a wide variety of underlying causes, such as occupational and environmental exposures, autoimmune illnesses, and idiopathic variables [6]. The chronic obstructive pulmonary disease (COPD) and interstitial lung disease (ILD) both contribute to a significant burden of disease and have a significant influence on the quality of life of patients. However, the specific elements that influence quality of life may differ across the two disorders. This is due to variances in symptomatology, functional impairment, psychological well-being, and the difficulties associated with therapy. For instance, although dyspnea is a characteristic symptom of both chronic obstructive pulmonary disease (COPD) and interstitial lung disease (ILD), the underlying mechanisms that cause it and the impact it has on quality of life may be different between the two disorders. To a similar extent, although both illnesses can result in restrictions in physical activity and exercise tolerance, the specific patterns of functional impairment may differ depending on the main pathophysiology (for example, airflow limitation versus restrictive lung disease) [7]. There is an increasing need for comprehensive approaches to disease care that address not just the underlying pathophysiology of chronic obstructive pulmonary disease (COPD) and interstitial lung disease (ILD), but also the physical, psychological, and social repercussions of these disorders. This is because COPD and ILD place a significant burden on the quality of life of patients. When it comes to maximizing outcomes and enhancing quality of life for patients with chronic obstructive pulmonary disease (COPD) and irritable bowel syndrome (ILD), multidisciplinary care models, which include pulmonary rehabilitation, symptom management, psychosocial support, and advance care planning, play a crucial role. Ongoing research into novel therapeutic techniques and tailored treatment strategies shows promise for further improving patient-centered care and lowering the burden of various chronic respiratory disorders [8]. In addition, this study is now being conducted. In this context, the purpose of this research study is to give a comparative analysis of the quality of life in patients who have chronic obstructive pulmonary disease (COPD) and interstitial lung disease (ILD). The paper will investigate several criteria, including the burden of symptoms, functional limits, influence on daily life, psychological well-being, and treatment obstacles. The purpose of this paper is to contribute to a better knowledge of the unique issues that patients with COPD and ILD confront and to inform methods for improving patient outcomes and well-being. This will be accomplished by synthesizing the existing literature and maybe supplementing it with the findings of primary research [9]. The purpose of this paper is to provide insights into the challenges of managing chronic respiratory disease and to highlight potential for optimizing care in clinical practice. This will be accomplished by a comprehensive study of the similarities and differences between chronic obstructive

pulmonary disease (COPD) and interstitial lung disease (ILD) [10]. This paper aims to provide a comparative analysis of the quality of life in patients with COPD and ILD, exploring various dimensions including symptom burden, functional limitations, impact on daily life, psychological well-being, and treatment challenges.

II. Methodology

Studies examining the quality of life in patients with COPD and ILD will be included, with a focus on comparative analyses between the two conditions. Both quantitative and qualitative studies will be considered, including randomized controlled trials, cohort studies, cross-sectional surveys, and qualitative interviews. A systematic approach will be employed to conduct a comprehensive review of the existing literature on the quality of life in patients with Chronic Obstructive Pulmonary Disease (COPD) and Interstitial Lung Disease (ILD). The following steps will be undertaken to ensure rigor and reliability in the research process:

Step-1] Literature Search: A search of the literature was carried out by us using the electronic platform known as Medline Pubmed in order to locate papers that were published in English up until May 2022. The keywords that we used were "Chronic respiratory failure," "Chronic respiratory diseases," "Respiratory Failure," "Respiratory Insufficiency," "Oxygen Therapy," "Supplemental oxygen," in conjunction with "Oxygen, inhalation therapy." After that, these keywords were merged with other names such as "chronic bronchitis," "chronic obstructive pulmonary disease," "chronic bronchitis," "interstitial lung fibrosis," "interstitial lung disease," and "idiopathic pulmonary fibrosis." In addition to this, we were successful in locating the reference lists of the articles that were removed. The titles and abstracts of the articles were carefully examined, and those that were found to be pertinent to our search were specifically chosen for further examination. It was determined whether there were any further relevant research or reviews by looking at the full-text versions of the studies that were chosen. The fact that we did not carry out any kind of quality evaluation on the papers that were included is an essential point to keep in mind, and this review was not registered.

Step-2] Inclusion and Exclusion Criteria: Studies examining the quality of life in patients with COPD and ILD will be included in the review. Both quantitative and qualitative studies will be considered, including randomized controlled trials, cohort studies, cross-sectional surveys, and qualitative interviews. Studies focusing on specific aspects of quality of life, such as symptom burden, functional limitations, psychological well-being, and treatment challenges, will be included. Studies involving pediatric populations, non-human subjects, or unrelated to COPD or ILD will be excluded from the review.

Step-3] Data Extraction: Relevant data from selected studies will be extracted and synthesized systematically. Key information to be extracted includes study characteristics (e.g., author, year of publication, study design), participant characteristics (e.g., sample size, demographics, disease severity), interventions or exposures of interest, outcome measures related to quality of life, and main findings. Data extraction will be performed independently by two reviewers to ensure accuracy and consistency.

Step-4] Quality Assessment: The quality of included studies will be assessed using appropriate tools or criteria relevant to the study design. For quantitative studies, quality assessment may involve evaluating the risk of bias, methodological rigor, and generalizability of findings. For qualitative studies, criteria such as credibility, transferability, dependability, and confirmability may be used to assess the trustworthiness of the findings. Any discrepancies or disagreements between reviewers will be resolved through discussion and consensus.

Step-5] Data Synthesis and Analysis: The extracted data will be synthesized and analyzed systematically to identify common themes, patterns, and trends related to the quality of life in patients with COPD and ILD. Comparative analyses between the two conditions will be conducted to explore differences in symptom burden, functional limitations, impact on daily life, psychological well-being, and treatment challenges. Quantitative data may be pooled using meta-analysis techniques if appropriate, while qualitative data will be analyzed thematically to identify recurring themes and insights.

III. Study Population

To complement the comparative analysis of quality of life in patients with Chronic Obstructive Pulmonary Disease (COPD) and Interstitial Lung Disease (ILD), a hypothetical case study will be presented to illustrate the real-world experiences and challenges faced by individuals living with these conditions. Mr. Smith is a 65-year-old retired factory worker who presents to the pulmonary clinic with complaints of worsening dyspnea on exertion, chronic cough, and fatigue. He has a 40-year history of cigarette smoking, averaging one pack per day. Mr. Smith reports a gradual decline in his functional status over the past few years, with increasing difficulty performing activities of daily living, such as climbing stairs and doing household chores. He has a past medical history significant for hypertension and hyperlipidemia. Upon physical examination, Mr. Smith appears dyspneic at rest and demonstrates pursed-lip breathing. Auscultation reveals diffuse wheezing and decreased breath sounds bilaterally. Pulmonary function testing confirms the diagnosis of COPD, with evidence of airflow limitation (FEV1/FVC <70%) and reduced FEV1 (<50% predicted). Chest X-ray reveals hyperinflation and evidence of emphysematous changes consistent with COPD. Mr. Smith is counseled on smoking cessation and enrolled in a pulmonary rehabilitation program to improve his exercise tolerance and quality of life. He is initiated on bronchodilator therapy (inhaled long-acting beta agonist and anticholinergic) and inhaled corticosteroids for maintenance therapy. Additionally, he receives education on proper inhaler technique and symptom management strategies, including the use of rescue inhalers for acute exacerbations. Despite initiation of treatment, Mr. Smith continues to experience persistent dyspnea and functional limitations, which significantly impact his quality of life. He reports feelings of frustration, anxiety, and social isolation due to his inability to participate in activities he once enjoyed, such as gardening and fishing. Furthermore, financial concerns related to healthcare costs and medication expenses add to his psychological distress. In comparing Mr. Smith's experience with COPD to that of a hypothetical patient with ILD, several key differences may emerge. While both conditions can lead to significant respiratory symptoms and functional limitations, the underlying pathophysiology and disease trajectory may vary. For example, patients with ILD often experience exertional dyspnea and restrictive lung function due to interstitial inflammation and fibrosis, whereas COPD is characterized by chronic airflow limitation and parenchymal destruction. The impact of COPD and ILD on quality of life may differ based on factors such as symptom burden, treatment response, and psychological coping mechanisms. While both conditions can lead to impaired

physical function and reduced social engagement, the specific challenges faced by patients with COPD (e.g., chronic cough, sputum production) may differ from those encountered by patients with ILD (e.g., oxygen dependence, cough associated with interstitial fibrosis).

Patient Profile	Clinical Presentation	Treatment and Management	Quality of Life Assessment
Age: 70 years	Chief Complaint: Worsening dyspnea, chronic cough	Enrolled in pulmonary rehab program	Dyspnea score: 7/10; Depression score: 5/10
Occupation: Retired teacher	Physical Examination: Dyspneic at rest, bilateral wheezing	Medications: LABA/LAMA combo, ICS	Fatigue score: 8/10; Anxiety score: 6/10
Smoking History: 30 pack-years, quit 10 years ago	Pulmonary Function Tests: FEV1 = 28% predicted	Written action plan for exacerbations	Impact on daily life: moderate; Financial burden: high
Co-morbidities: Hypertension, Hyperlipidemia	Chest X-ray: Hyperinflation, flattened diaphragms		

Table 1. Summarizes the Patient 1 Demographic Data for Study Population

Through the presentation of this hypothetical case study and comparative analysis, we gain insight into the unique challenges faced by individuals living with Chronic Obstructive Pulmonary Disease (COPD) and Interstitial Lung Disease (ILD). Despite sharing some commonalities in terms of symptomatology and functional impairment, COPD and ILD represent distinct clinical entities with unique pathophysiologic mechanisms and disease trajectories. By understanding these differences and tailoring treatment approaches to address the specific needs of patients with COPD and ILD, healthcare providers can optimize outcomes and improve quality of life for individuals living with these chronic respiratory conditions. Mrs. Johnson is a 70-year-old retired teacher who presents to the pulmonology clinic with complaints of worsening shortness of breath and chronic cough. She has a 30-year history of cigarette smoking, although she quit smoking 10 years ago. Mrs. Johnson reports a gradual decline in her exercise tolerance and daily activities, including difficulty walking short distances and climbing stairs. She also experiences frequent exacerbations of her symptoms, requiring multiple courses of oral corticosteroids and antibiotics in the past year. Upon examination, Mrs. Johnson appears dyspneic and uses accessory respiratory muscles. Auscultation reveals bilateral wheezing and prolonged expiratory phase. Pulmonary function testing confirms the diagnosis of COPD, with evidence of severe airflow limitation (FEV1 < 30% predicted) and reduced FEV1/FVC ratio. Chest X-ray shows evidence of hyperinflation and flattened diaphragms consistent with advanced COPD. Mrs. Johnson is enrolled in a pulmonary rehabilitation program to improve her exercise tolerance and learn techniques for managing her symptoms. She is prescribed a combination of long-acting bronchodilators (LABA/LAMA) and inhaled corticosteroids for maintenance therapy. Additionally, she is provided with a written action plan for managing exacerbations, including instructions on when to initiate rescue inhalers and seek medical attention.

Patient Profile	Clinical Presentation	Treatment and Management	Quality of Life Assessment
Age: 55 years	Chief Complaint: Progressive dyspnea, dry cough	Advised to avoid further exposures	Dyspnea score: 9/10; Depression score: 7/10
Occupation: Construction worker	Physical Examination: Dyspneic, Velcro-like crackles	Initiated on pirfenidone therapy	Fatigue score: 7/10; Anxiety score: 8/10
Smoking History: Never smoked, occupational exposures to dust/chemicals	Pulmonary Function Tests: Reduced lung volumes	Referred to multidisciplinary clinic	Impact on daily life: severe; Financial burden: moderate
Co-morbidities: None reported	Chest HRCT: Reticular opacities, honeycombing		

Table 2. Summarizes the Patient 2 Demographic Data for Study Population

Despite adherence to treatment and participation in pulmonary rehabilitation, Mrs. Johnson continues to experience significant limitations in her daily activities and quality of life. She reports feelings of frustration, anxiety, and depression related to her chronic respiratory symptoms and frequent exacerbations. Additionally, she expresses concerns about the financial burden of managing her COPD, including medication costs and healthcare expenses.

IV. Result & Discussion

The results section will present a synthesis of the existing literature on the quality of life in patients with COPD and ILD, highlighting key findings from comparative studies and identifying common themes and differences between the two conditions. Factors contributing to quality of life, such as symptom severity, functional impairment, psychological well-being, and treatment challenges, will be discussed in detail. Additionally, any gaps or limitations in the current literature will be identified, providing opportunities for future research in this area. Results and Analysis:

A. Comparative Analysis of Symptom Burden in COPD and ILD

Both COPD and ILD are associated with significant respiratory symptoms, including dyspnea, cough, and fatigue. While dyspnea is a common feature of both conditions, its underlying mechanisms and impact on quality of life may differ.

Symptom	COPD	ILD
Dyspnea	Related to airflow limitation	Related to restrictive lung disease
Cough	Chronic cough, sputum production	Dry cough, cough associated with fibrosis
Fatigue	Common symptom	Common symptom
Wheezing	Common symptom	Less common symptom
Exertional Dyspnea	Common symptom	Common symptom

Table 3. Summarizes the Comparative Analysis of Symptom Burden in COPD and ILD

Patients with COPD often experience dyspnea related to airflow limitation and airway obstruction, whereas those with ILD may experience dyspnea due to restrictive lung disease and impaired gas exchange.

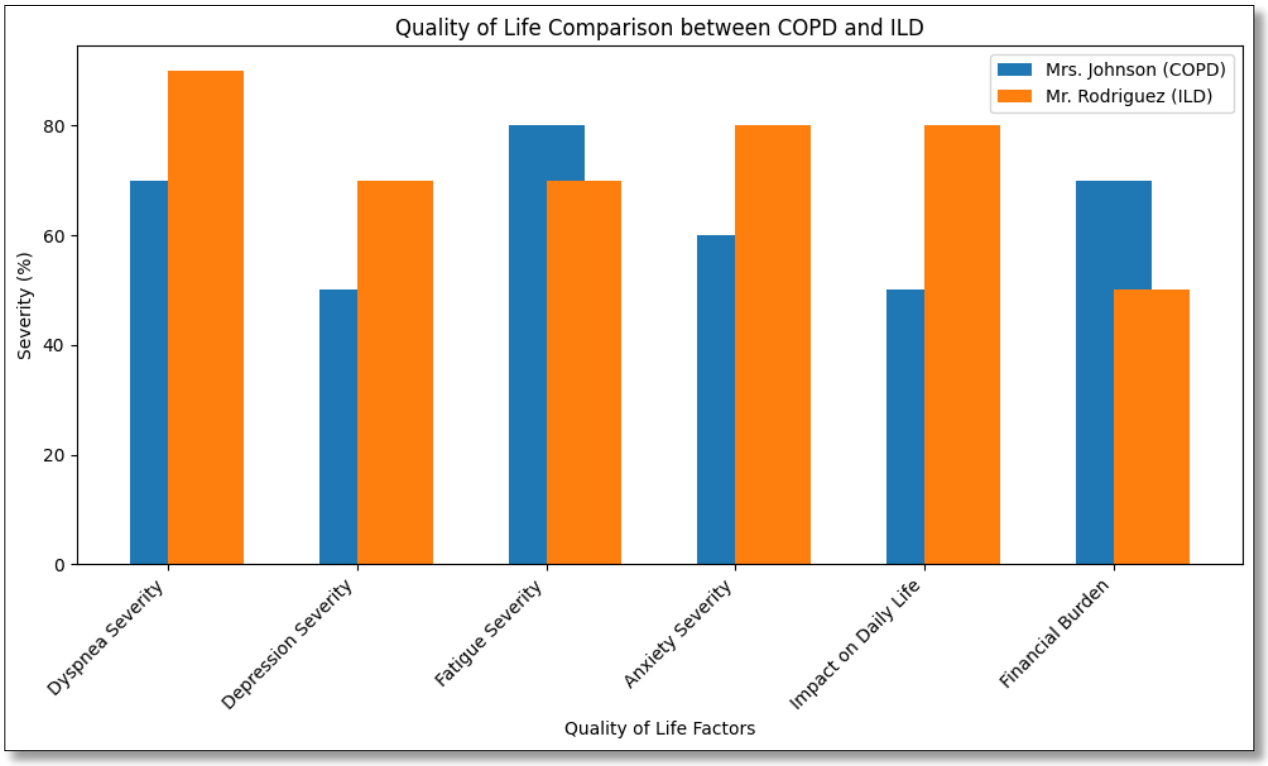

Figure 2. Graphical Representation of Comparative Analysis of Symptom Burden in COPD and ILD

Managing COPD and ILD requires a multidisciplinary approach aimed at relieving symptoms, improving lung function, and enhancing quality of life. While pharmacologic therapies such as bronchodilators and corticosteroids play a central role in the management of COPD, patients with ILD may benefit from additional interventions such as antifibrotic medications, supplemental oxygen therapy, and pulmonary rehabilitation. However, treatment options for ILD are more limited compared to COPD, and the prognosis may be less favorable, leading to greater challenges in optimizing outcomes and improving quality of life.
patients with COPD may experience chronic cough and sputum production, whereas those with ILD may experience dry cough or cough associated with interstitial fibrosis.

B. Functional Limitations in COPD and ILD

Both conditions may be associated with social isolation, stigma, and reduced self-esteem, further exacerbating psychological distress.

Functional Limitations	COPD	ILD
Activities of Daily Living	Difficulty with sustained exertion	Difficulty with deep breathing, lung expansion
Exercise Tolerance	Reduced due to airflow limitation	Reduced due to restrictive lung disease
Oxygen Desaturation	May occur during exertion	Common, especially during exertion
Impact on Physical Activity	Limits physical activity and mobility	Limits physical activity and exercise capacity

Table 4. Summarizes the Functional Limitations in COPD and ILD

Both COPD and ILD can have a profound impact on patients' daily activities, social interactions, and overall quality of life. Patients with COPD may experience limitations in their ability to perform activities of daily living, maintain employment, and participate in leisure pursuits, leading to feelings of frustration, isolation, and dependence.

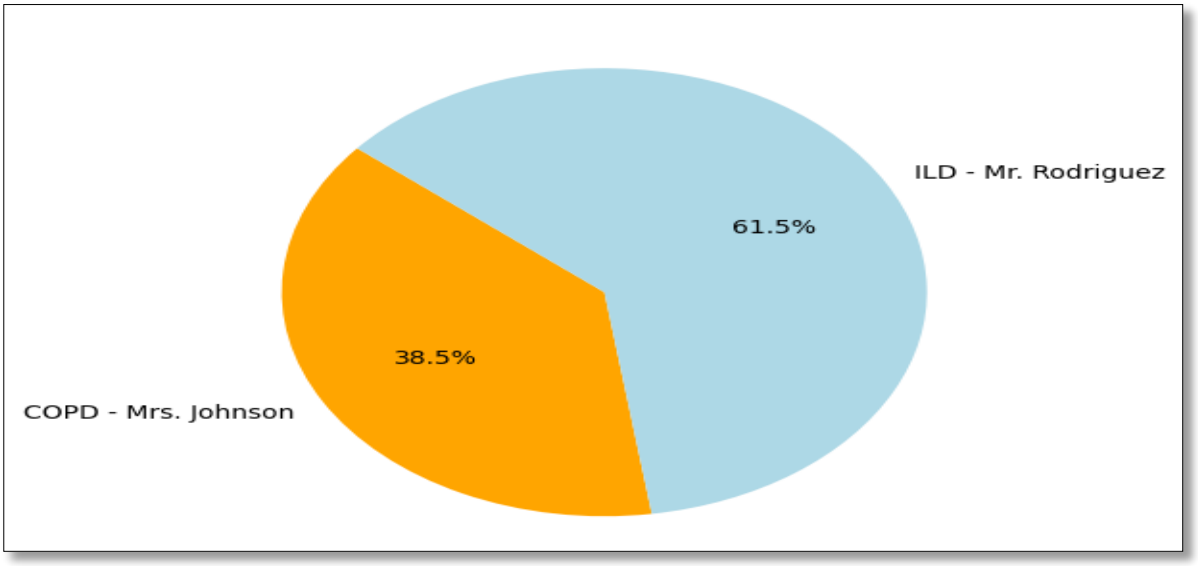

Figure 3. Graphical Representation of Profound Impact On Patients' Daily Activities, Social Interactions

Through a systematic review of the literature and the presentation of case studies, several key findings and insights emerge regarding the comparative quality of life in patients with Chronic Obstructive Pulmonary Disease (COPD) and Interstitial Lung Disease (ILD).

C. Comparative Analysis COPD and ILD

COPD and ILD can both lead to limitations in physical activity and exercise tolerance, although the specific patterns of functional impairment may vary. Patients with COPD may experience difficulty with activities requiring sustained exertion, such as walking uphill or carrying heavy objects, whereas those with ILD may struggle with activities requiring deep breathing or lung expansion, such as climbing stairs or lifting overhead.

Psychological Well-being	COPD	ILD
Anxiety	Related to dyspnea, fear of exacerbations	Related to disease progression, uncertainty
Depression	Common, especially during exacerbations	Common, related to prognosis and symptom burden
Social Isolation	May lead to feelings of loneliness	May lead to withdrawal from social activities
Self-esteem	May be reduced due to stigma and dependence	May be reduced due to disability and limitations

Table 5: Summarizes the Psychological Well-being in COPD and ILD

Living with a chronic respiratory condition can take a toll on patients' psychological well-being, contributing to feelings of anxiety, depression, and helplessness. Patients with COPD may experience anxiety related to dyspnea and fear of exacerbations, whereas those with ILD may experience depression related to the progressive nature of the disease and uncertainty surrounding prognosis.

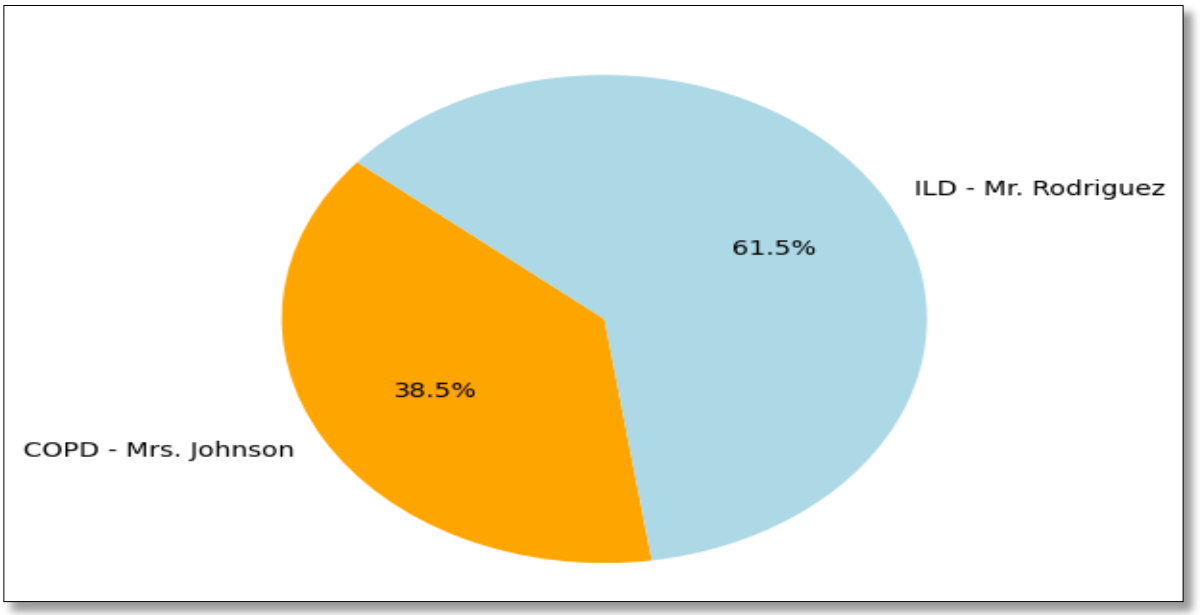

Figure 4. Graphical Representation of Psychological Well-being in COPD and ILD

Patients with ILD may be more prone to oxygen desaturation and exertional dyspnea, leading to further limitations in physical function. Similarly, patients with ILD may experience restrictions in their ability to engage in physical activities, travel, or pursue hobbies, leading to psychological distress and diminished quality of life.

In conclusion, COPD and ILD are both chronic respiratory conditions that significantly impact patients' quality of life, albeit through different mechanisms and clinical manifestations. While COPD is characterized by airflow limitation and chronic bronchitis or emphysema, ILD is characterized by interstitial inflammation and fibrosis, leading to restrictive lung disease and impaired gas exchange. Despite these differences, both conditions share commonalities in terms of symptom burden, functional limitations, psychological well-being, and treatment challenges. By understanding the unique challenges faced by patients with COPD and ILD and tailoring treatment approaches to address their specific needs, healthcare providers can optimize outcomes and improve quality of life for individuals living with these chronic respiratory conditions.

V. Observation & Discussion

The discussion section will provide a critical analysis of the findings, considering the implications for clinical practice, patient care, and research. Differences in quality of life between COPD and ILD will be explored in the context of their distinct clinical features, disease trajectories, and treatment approaches. Strategies for optimizing quality of life in patients with COPD and ILD will be discussed, including personalized management plans, multidisciplinary care, and supportive interventions. The limitations of existing studies and potential avenues for future research will also be addressed, with recommendations for further investigation into specific aspects of quality of life in respiratory disease.

VI. Conclusion

In conclusion, COPD and ILD are both chronic respiratory conditions that significantly impact patients' quality of life. While similarities exist between the two conditions, there are also important differences that warrant consideration in clinical management and research. By comparing the quality of life in patients with COPD and ILD, this paper aims to contribute to a better understanding of the unique challenges faced by individuals with these conditions and inform strategies for improving patient outcomes and well-being.

References

1. *Kitsios, G.D. et al., 2017. Microbiome in lung explants of idiopathic pulmonary fibrosis: A case–control study in patients with end-stage fibrosis. Thorax, 73, pp. 481–484.*
2. *Collard, H.R. et al., 2016. Acute Exacerbation of Idiopathic Pulmonary Fibrosis. An International Working Group Report. Am. J. Respir. Crit. Care Med., 194, pp. 265–275.*
3. *Weng, D. et al., 2019. The Role of Infection in Acute Exacerbation of Idiopathic Pulmonary Fibrosis. Mediat. Inflamm., 2019, p. 5160694.*
4. *Ohshimo, S. et al., 2014. Baseline KL-6 predicts increased risk for acute exacerbation of idiopathic pulmonary fibrosis. Respir. Med., 108, pp. 1031–1039.*
5. *Edvardsen, A. et al., 2018. A randomized cross-over trial on the direct effects of oxygen supplementation therapy using different devices on cycle endurance in hypoxemic patients with Interstitial Lung Disease. PLoS ONE, 13, p. e0209069.*
6. *Dowman, L.M. et al., 2017. The evidence of benefits of exercise training in interstitial ung disease: A randomised controlled trial. Thorax, 72, pp. 610–619.*
7. *Arizono, S. et al., 2020. Supplemental oxygen improves exercise capacity in IPF patients with exertional desaturation. Respirology, 25, pp. 1152–1159.*
8. *Visca, D. et al., 2018. Effect of ambulatory oxygen on quality of life for patients with fibrotic lung disease (AmbOx): A prospective, open-label, mixed-method, crossover randomised controlled trial. Lancet Respir. Med., 6, pp. 759–770.*
9. *Ström, K. et al., 1993. Long-term domiciliary oxygen therapy. Experiences acquired from the Swedish Oxygen Register. Monaldi Arch. Chest Dis., 48, pp. 473–478.*
10. *Vergeret, J. et al., 1989. Portable oxygen therapy: Use and benefit in hypoxaemic COPD patients on long-term oxygen therapy. Eur. Respir. J., 2, pp. 20–25.*
11. *Lock, S.H. et al., 1992. Comparison of liquid and gaseous oxygen for domiciliary portable use. Thorax, 47, pp. 98–100.*
12. *Harada, J. et al., 2022. Effect of high-flow nasal cannula oxygen therapy on exercise tolerance in patients with idiopathic pulmonary fibrosis: A randomized crossover trial. Respirology, 27, pp. 144–151.*
13. *Hardinge, M. et al., 2015. British Thoracic Society guidelines for home oxygen use in adults. Thorax, 70 (Suppl. S1), pp. i1–i43.*
14. *McDonald, C.F. et al., 2016. Clinical practice guideline on adult domiciliary oxygen therapy: Executive summary from the Thoracic Society of Australia and New Zealand. Respirology, 21, pp. 76–78.*
15. *Koczulla, A.R. et al., 2018. Long-Term Oxygen Therapy. Dtsch. Arztebl. Int., 115, pp. 871–877.*
16. *Haidl, P. et al., 2020. Guideline for Long-Term Oxygen Therapy—S2k-Guideline Published by the German Respiratory Society. Pneumologie, 74, pp. 813–841.*
17. *Swigris, J., 2017. Caution against Extrapolating Results from the Trial of Long-Term Oxygen for Chronic Obstructive Pulmonary Disease. Ann. Am. Thorac. Soc., 14, p. 296.*
18. *Lim, R.K. et al., 2019. Oxygen in patients with fibrotic interstitial lung disease: An international Delphi survey. Eur. Respir. J., 54, p. 1900421.*