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TO STUDY THE EFFECT OF ANXIETY AND DEPRESSION ON QUALITY OF LIFE IN INTERSTITIAL LUNG DISEASE AT MADHUBANI MEDICAL COLLEGE, MADHUBANI, BIHAR

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ABSTRACT **BACKGROUND:** Interstitial Lung Diseases (ILD) is a group of diseases characterized by poor prognosis and high mortality. Patient's symptoms are dyspnea and cough, which directly affect Health-Related Quality of Life (HRQoL). Information about incidence, prevalence and mortality in ILD is scarce in Latin America, so it is difficult to estimate the magnitude of the problem. In ILD the decrease in HRQoL frequently is originate by emotional distress, anxiety and depression as two of the most common problems associated. **AIMS AND OBJECTIVE:** The aim of our study was to assess the frequency of anxiety and depression in patients with ILD. Additionally, we analyze the relationship between scales that evaluate mood alterations, clinical variables and functional tests. **METHODS AND MATERIALS:** A Cross-sectional study in ILD patients. Patients were prospectively enrolled in a consecutive manner in interstitial diseases by the psychologists of the multidisciplinary team, who explained the objective of the study and obtained informed consent. **RESULT:** We analyzed 149 patients with a female predominance 102 (68%) versus 47 (32%) male patients (p=0.0002). Regarding the diagnosis, 42 (28%) had Idiopathic Pulmonary Fibrosis (IPF), 54 (36%). Hypersensitivity Pneumonitis (HP) and 63 (36%) were ILD secondary to autoimmune disease. **CONCLUSION:** It is important that every patient could access to palliative or supportive care, which is the act of bringing people together to ensure that all those with serious illness receive the care they need, in the right places, at the right time. It is synonymous with comfort, supportive care, and symptom management and aims to improve quality of life the whole disease course for patient and caregivers. Palliative care could be delivered by the clinical care team, interdisciplinary team or eventually specialty palliative care providers.

KEYWORDS : Anxiety; Depression; Interstitial lung disease; and breathlessness.

INTRODUCTION:

Interstitial lung disease (ILD) is an umbrella term for a group of diverse pulmonary conditions, which encompass more than 200 different entities. The estimated incidence of ILD is 26–32 cases per 100 000 people per year [1]. For the most part, the ILD are chronic conditions associated with significant morbidity and, in many subjects, increased mortality [2, 3]. The most prevalent ILD encountered in clinical practice are the idiopathic interstitial pneumonias of which idiopathic pulmonary fibrosis (IPF) is the most common. While the diagnosis and classification of the numerous ILD is not without challenge, the symptomology of these different disorders demonstrate considerably commonality, particularly breathlessness and functional impairment [4–6]. Therefore, despite differences in the treatment of individual ILD, these conditions, as a group, present similar challenges in the clinical management of symptoms. Of the symptoms caused by ILD, breathlessness has received the greatest attention. Patient-reported dyspnea has been reported to be the single strongest predictor of mortality in patients with IPF [7] and correlates strongly with quality of life [8]. The modified MRC score has been shown to have prognostic value in predicting survival [9] and in detecting disease progression [10] in IPF. Anxiety and depression are known to occur frequently in breathless patients [11, 12]. In chronic obstructive pulmonary disease (COPD) patient-reported breathlessness, severity is influenced by both depression and impairment of functional status [13]. Qualitative studies of individuals with COPD articulate the patient-described perception of acute Dyspnoea as 'an experience inextricably related to anxiety and emotional functioning' [14]. Depression and anxiety should therefore not be considered in isolation from breathlessness and requires particular attention in ILD.

Depression is characterized by the presence of feelings like sadness, loss of interest or pleasure in daily activities, low energy and loss of concentration [15]. Its prevalence and the relationship with other chronic diseases such as cancer, AIDS, diabetes among others have been studied [16]. Worldwide prevalence of depression is 4.4%. In Latin America, the country with the highest levels of depression is Brazil with 5.8% of its total population, while Argentina presents 4.7% and Mexico only 4.2% [17]. Reported studies that measure the impact on mental health in respiratory diseases have been performed mainly in COPD, asthma and lung cancer. There are few studies in patients with ILD. Some authors such as Youth have reported between 15% and 30% of this population presents symptoms of anxiety or depression, most of them underdiagnosed [18-21].

AIMS AND OBJECTIVE:

The aim of our study was to assess the frequency of anxiety and depression in patients with ILD. Additionally, we analyze the relationship between scales that evaluate mood alterations, clinical variables and functional tests.

MATERIAL AND METHODS:

We developed a cross-sectional study in ILD patients after obtaining the approval from the institutional ethical committee of the college. Patients were prospectively enrolled in a consecutive manner in interstitial diseases by the psychologists of the multidisciplinary team, who explained the objective of the study and obtained informed consent. Only one patient was excluded for not signing the informed consent. After signing informed consent, respiratory function test performed during regular follow-up visits of patients. For Spirometry and diffusion of carbon monoxide we use EASY ONE PRO® and CPFS/D MEDGRAPHICS® equipment, according to the ATS/ ERS guidelines [22]. 6-minute walk was conducted according to the ATS guidelines [23]. Later, Hospital Anxiety and Depression Scale (HADS) were applied by the psychologists using the criteria described by Galindo [24]. HADS instrument was interpreted as normal with score of 0-7, moderate 8-10, and severe >11, either in anxiety or in depression. A mixed group was separated as those who presented scores equal to or greater than 8 in both anxiety and depression. The questionnaire was applied to a total of 57 patients, and the results were compared with the patient´s performance in HADS questionnaire.

STUDY PERIOD: From February 2020 to January 2021

STATISTICAL ANALYSIS:

Frequency measurements in the categorical variables, and mean, along with standard or mediated deviation, along with interquartile range in the continuous ones. Groups were compared using the t-Student and X2 tests. We made a correlation analysis with Spearman or Pearson method and we informed the “r” coefficient with its “p” value. Microsoft Excel Mac 16.13.1 program was used for database and

STATA IC 13.0 program for statistical analysis.

RESULT:

We analyzed 149 patients with a female predominance 102 (68%) versus 47 (32%) male patients (p=0.0002). Regarding the diagnosis, 42 (28%) had Idiopathic Pulmonary Fibrosis (IPF), 54 (36%). Hypersensitivity Pneumonitis (HP) and 63 (36%) were ILD secondary to autoimmune disease. Diagnoses were corroborated by a multidisciplinary session. Characteristics of the entire sample and comparison are presented. Regarding the differences we observed more frequently female gender; HP diagnosis and lower values of FVC% were found in patients. The percentage of FVC was 64 ± 15% (p=0.007). We did not observe differences in other lung function tests.

When studying the overall performance of patients in HADS questionnaire, we found 20% of patients with some disorder (score greater than 7) in the area of anxiety and 18% in the area of depression. We analyze the groups separating them into anxiety, depression and mixed, they presented similar values regarding respiratory function tests, except in the FVC in which the depressive patients present a lower average than the rest of the groups. Regarding gender, female predominance in emotional discomforts in each of the groups was observed. This fact is in coincidence with previously reported data. The presence of emotional distress was also associated with the diagnosis of autoimmune disease (52% in patients with any mood disorder vs. 30% in patients without mood disorder, p=0.06) although the difference did not reach statistical significance. Also, patients with any emotional distress had a trend to less month since diagnosis [mean 7 (± 24) months vs. 10 (± 36) months; p=0.05], showing a possible relationship between the duration of the disease and presence of emotional disturbance, correlated positively with the emotional disorder obtained by the HADS scale. When correlating the emotional disturbance by HADS with the respiratory function tests we observed a negative correlation between DLCO, and meters walked with the depression disorder.

DISCUSSION:

The importance of chronic comorbidities to overall disease burden has been increasingly recognized over recent years, particularly in ILD. It is necessary to understand better the emotional characteristics of these patients in order to provide more appropriate management. Psychological impact of these disorders on patients is crucial, not only from the disease but also the understanding of it, attachment and response to treatments. In this study we found a frequency of anxiety and depression using the HADS scale in patients with ILD in 27% of the total sample, which agrees with that described in previous studies in other populations [25]. These results maybe are crucial, because it is possible that treatment of comorbidities could have a critical impact on the overall burden of ILD, particularly in the psychological burden. Interestingly, we found difference in the prevalence of anxiety and depression in patients with ILD. This finding may be due to different cultural characteristics, different resilient capacities, and different social determinants (such as insecurity and worsening economic conditions). Further studies need to be conducted to acknowledge these differences. It has been observed that in patients with autoimmune disease, anxiety occupies 11% while depression 29% despite different comorbidities [26]. Some patients that must use corticosteroids as part of their treatment has reported anxiety, depression a cognitive impairment, all in relation with the nature of their disease, however the use of corticosteroids is not a risk factor for cognitive impairment [27]. A period of adaptation has been necessary to accept process of evolution of the disease. The literature describes the importance of an early psychological intervention in chronic diseases; it has been reported different variables (motivation, mental function, emotions, social background, and personal background) that modulate the impact of the disease [28]. The behavioral and physiological changes that the patient suffers at the moment of the diagnosis appear force them to seek a readjustment in their life, this is related to the emotional state, familial structure, communication between physician and patient, and it has been reported that over time a positive change from small to moderate is generated with the perception of the disease [29].

CONCLUSION:

Because lung interstitial diseases are chronic diseases, we recommend adding to the multidisciplinary supportive team that treats these patients psychological and psychiatric support to identify emotional disorders in a timely manner to initiate timely individualized treatment to improve acceptance and adherence to the indications suggested to the patient. It is important that every patient could access to palliative or supportive care, which is the act of bringing people together to ensure that all those with serious illness receive the care they need, in the right places, at the right time. It is synonymous with comfort, supportive care, and symptom management and aims to improve quality of life the whole disease course for patient and caregivers. Palliative care could be delivered by the clinical care team, interdisciplinary team or eventually specialty palliative care providers.

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