# EFFECTS OF PULMONARY REHABILITATION IN PATIENTS WITH DIFFUSE INTERSTITIAL LUNG DISEASE

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**Introduction**: Diffuse interstitial lung diseases (DILD) are a heterogeneous group of disorders of the lung parenchyma, which are classified into one group to present similar clinical, radiological, pathophysiology and anathopathological features.

**Purpose:** to establish the effects of an exercise program in patients with DILD attending an institution providing health services (IPHS) in the city of Cali, Colombia.

**Methodology:** Quasi-experimental study in a population of patients diagnosed with DILD, during the period July 2012 to June 2014 in the city of Cali, Colombia. Sociodemographic variables, FVC, FEV1, FEV1 / FVC were evaluated as percentage of predicted; Measurements were performed before and after the exercise intervention on BMI, MRC dyspnea, distance and estimated VO 2 in the walk test of six minutes (6MWT) and quality of life related to health in SGRQ (St . George Respiratory Questionnaire).

During eight weeks of exercise was performed: continuous exercise on treadmill for 30 minutes starting at 80% speed increase achieved in 6MWT at 4 weeks at 90% (7,8); O2 was administered to patients who present in 6MWT desaturation ≥ 4% or during exercise O2 saturation (SpO 2) was <90%; upper limb muscle strengthening 4 sets of 12 reps with 1 minute rest at 30% of maximum resistance (RM), increasing to four weeks at 40% of the RM; breathing techniques and mobility of the chest.

The data were entered into a template in Excel 2010 and processed in Statistical Package EPIINFO 2000; statistical tests of differences in means ± standard deviation were performed using paired t-test.

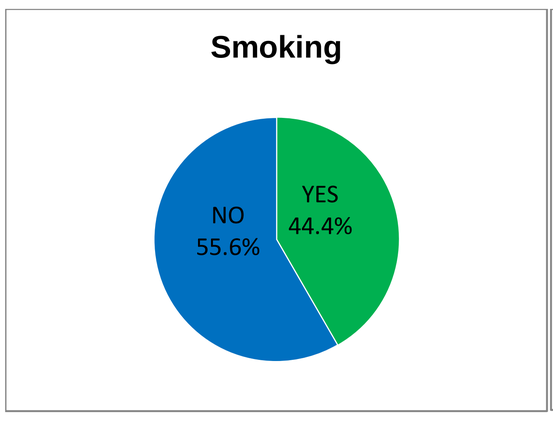
**Framework:** Previous studies established that patients with DILD to obtain a minimal difference in the walk test six minutes at the end of pulmonary rehabilitation program in the range of 24-34 meters (Holland et al; 2009), but was identified that women walked less distance compared with men. Despite the small number of patients involved in the study, there was a significant increase in the distance covered in the walk test of six minutes (Kaymaz et al; 2013). The questionnaire St. Georges proved to be an effective tool to assess quality of life related to health for both men and women (Jastrzebski et al; 2006).

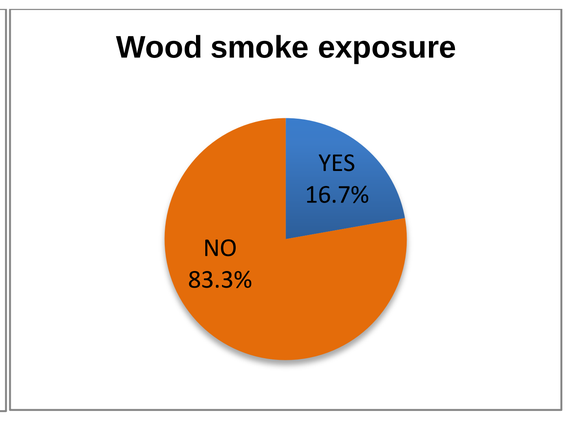
## RESULTS

Of 22 patients admitted to the exercise program, 18 which culminated. Spirometry shown in CVF an average of 61.7 ± 19.5% predicted, FEV 1 with a mean of 67.6 ± 21.3% predicted, FEV 1 / FVC ratio presented an average of 105.9 ± 18.3% predicted.

### Characteristics of patients

| Variable | Frequency |
|---|---|
| Age | 60.6 ± 13.9 |
| Gender | |
| Male | 11 (61.1%) |
| Female | 7 (38.9%) |
| Domiciliary oxygen | |
| Yes | 10 (55.6%) |
| No | 8 (44.4%) |




### Changes after Intervention

| Variables | Initiation | Final | Mean difference | Value–p |
|---|---|---|---|---|
| BMI (kg/m$^2$) | 24.9 ± (4.6) | 25.6 ± (4.3) | -0.7 ± (1.7) | 0.13 |
| TC6M distance(m) | 344.3 ± (126.6) | 405.8 ± (95.2) | 61.5 ± (68.6) | 0.001 |
| $V_{O2}$e (ml x kg/min) | 8.5 ± (2.3) | 10.3 ± (1.6) | 1.8 ± (2.2) | 0.003 |
| SGRQ | | | | |
| Symptoms | 43.6 ± (16.5) | 30 ± (11.5) | -13.6 ± (19.3) | 0.008 |
| Activity | 61.2 ± (16.2) | 46 ± (26.3) | -15.2 ± (31.6) | 0.06 |
| Impact | 37.7 ± (17.7) | 25.9 ± (12.6) | -11.8 ± (20.2) | 0.02 |
| Total | 47.4 ± (15.7) | 33.2 ± (14.2) | -14.2 ± (19.9) | 0.008 |

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