



EXERCISE TOLERANCE IN WOMEN WITH SYSTEMIC SCLEROSIS AND PULMONARY IMPAIRMENT – A PILOT STUDY

NATHALIE GAMA SILVA (HOSPITAL UNIVERSITÁRIO PEDRO ERNESTO, RIO DE JANEIRO, RJ, Brasil),
CHRISTIANE FIALHO RIBEIRO (HOSPITAL UNIVERSITÁRIO PEDRO ERNESTO, RIO DE JANEIRO, RJ, Brasil),
MARIANA ALONSO MONTEIRO BEZERRA (HOSPITAL UNIVERSITÁRIO PEDRO ERNESTO, RIO DE JANEIRO, RJ, Brasil)

BACKGROUND

Patients with Systemic Sclerosis (SSc) and interstitial lung disease (ILD) present higher morbidity and mortality, exhibiting dyspnea, fatigue and exercise intolerance, which lead to limitations in carrying activities of daily living (ADLs). This cross-sectional study aimed to describe exercise tolerance in women with SSc and ILD performing a six-minute walk test (6MWT) and a treadmill test with fixed gait speed. Secondary outcome was to correlate physical function and chronic fatigue to 6MWT distance.

MATERIALS AND METHODS

Eleven women were interviewed for sociodemographic and clinical evaluation. Borg modified scale of perceived exertion, heart rate and oxygen saturation were measured before and during each test. At first, the 6MWT was performed, followed by a 30-minute rest before the treadmill test. 6MWT distance and time in treadmill exercise were recorded. Treadmill speed was individualized as the mean speed obtained from 6MWT performed. Chronic fatigue and physical function were measured respectively by Functional Assessment of Chronic Illness Therapy-Fatigue (FACIT-F) and Scleroderma Health Assessment Questionnaire (S-HAQ). Descriptive analysis and Spearman's rank correlation were conducted with a significance level of 5%.

RESULTS

6MWT mean distance exceeded 400 meters (Mean \pm SD = 445.7 \pm 111.2; Min = 180.5; Max = 602) and only two patients stopped the test, even though four patients had reported Borg scores over 6 points. Average time tolerated in treadmill was 5 minutes (Mean \pm SD = 5.3 \pm 5.6; Min = 1; Max = 29), with six test interruptions due to oxygen desaturation below 90%. There was a strong negative correlation between physical function and 6MWT distance ($r = -0.85$, $p < 0.001$), and also between fatigue and 6MWT distance ($r = -0.83$, $p = 0.0014$).

CONCLUSION

Despite the small sample, these findings suggest that women with SSc and ILD showed exercise intolerance, readapting their daily activities – such as walking – to their clinical symptoms, slowing the speed or stopping during free gait, but not tolerating the imposed treadmill speed. 6MWT might have been taken as a maximum exertion test for some of them, instead of a submaximal test. Chronic fatigue and physical disability were inversely correlated with exercise tolerance. Patients with systemic sclerosis and pulmonary impairment require strategies to overcome exercise intolerance and improve physical function.