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Physical activity and mortality risk in people with interstitial lung disease: a systematic review and meta-analysis

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Abstract

Introduction: Physical activity (PA) might be a protective factor for mortality in people with interstitial lung disease (ILD), but evidence is widespread in the literature. This study summarises evidence on the association of PA measures and mortality in people with ILD.

Methods: PubMed, Scopus, Web of Science and EBSCO databases were searched. Two authors independently selected studies for inclusion, extracted data and assessed risk of bias. A meta-analysis for each PA measure was conducted using inverse variance-weighted averages of logarithmic hazard ratios (HR) in random-effects models.

Results: 48 studies were included with data from 8874 people with ILD [mean age:64±9years; 67%men; 83%IPF; mean DLCO:48.2±15.5%predicted]. Studies' follow-up period ranged from 23days-15.5years. The 3-most reported PA measures associated with mortality risk were six-minute walk test (6MWT) (n=39), oxygen uptake, peak or maximal (n=9) and workload in watts (W) (n=5). 23 studies were included in the meta-analyses. People walking less than 350-meters in 6MWT had more than twofold risk of premature mortality (Figure 1); and those showing an increase of 10% of predicted or between 10-20W in workload showed a 12% lower risk of

mortality.

Conclusion: PA measures predict risk of mortality in people with ILD and may be useful to guide clinical decision-making.

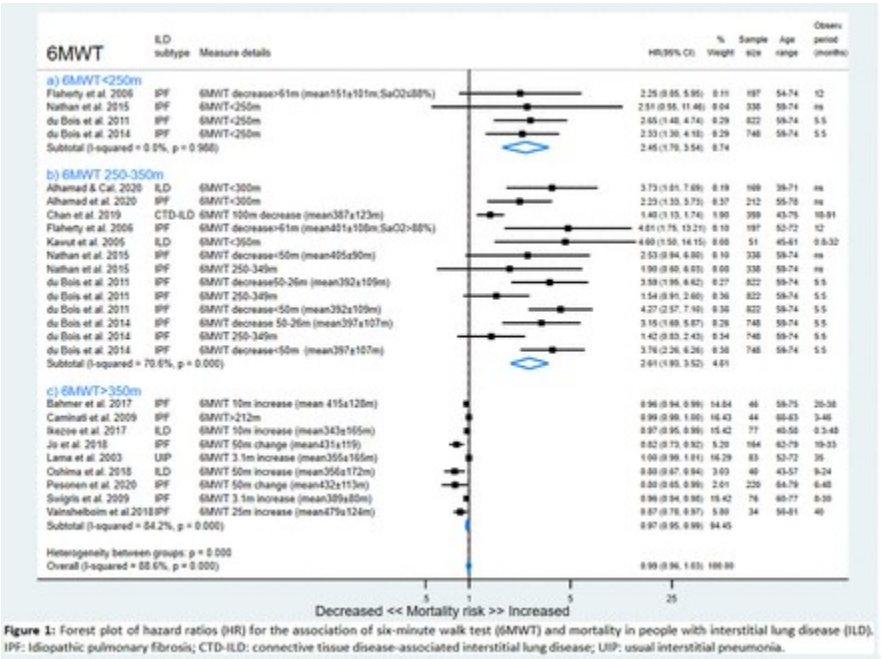

Figure 1: Forest plot of hazard ratios (HR) for the association of six-minute walk test (6MWT) and mortality in people with interstitial lung disease (ILD). IPF: Idiopathic pulmonary fibrosis; CTD-ILD: connective tissue disease-associated interstitial lung disease; UIP: usual interstitial pneumonia.

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Idiopathic pulmonary fibrosis Physical activity

Footnotes

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