Multidimensional Dyspnea profile and Dyspnea-12 in cardiorespiratory conditions

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Background:

The multidimensional nature of breathlessness can be assessed using the Multidimensional Dyspnea Profile (MDP) and Dyspnea-12 (D12). This study aimed to evaluated differences in these multidimensional scores between different cardiorespiratory conditions.

Materials and methods:

Cross-sectional analysis within a multicenter study including 156 patients with persistent breathlessness due to asthma (n= 39; 22%), chronic obstructive pulmonary disease COPD (n =47; 30%), idiopathic pulmonary fibrosis (IPF) (n=35;25%), or heart failure (HF) (n =35; 22%). Associations between diagnosis and MDP or D12 scores were examined as score/MDP A1 ratios to account for differences between the included patient groups in the overall level of breathlessness. Associations with intensity scores and descriptors were examined using multivariable linear regression and logistic regression adjusted for sex, age, body mass index and over all breathing discomfort (MDP A1).

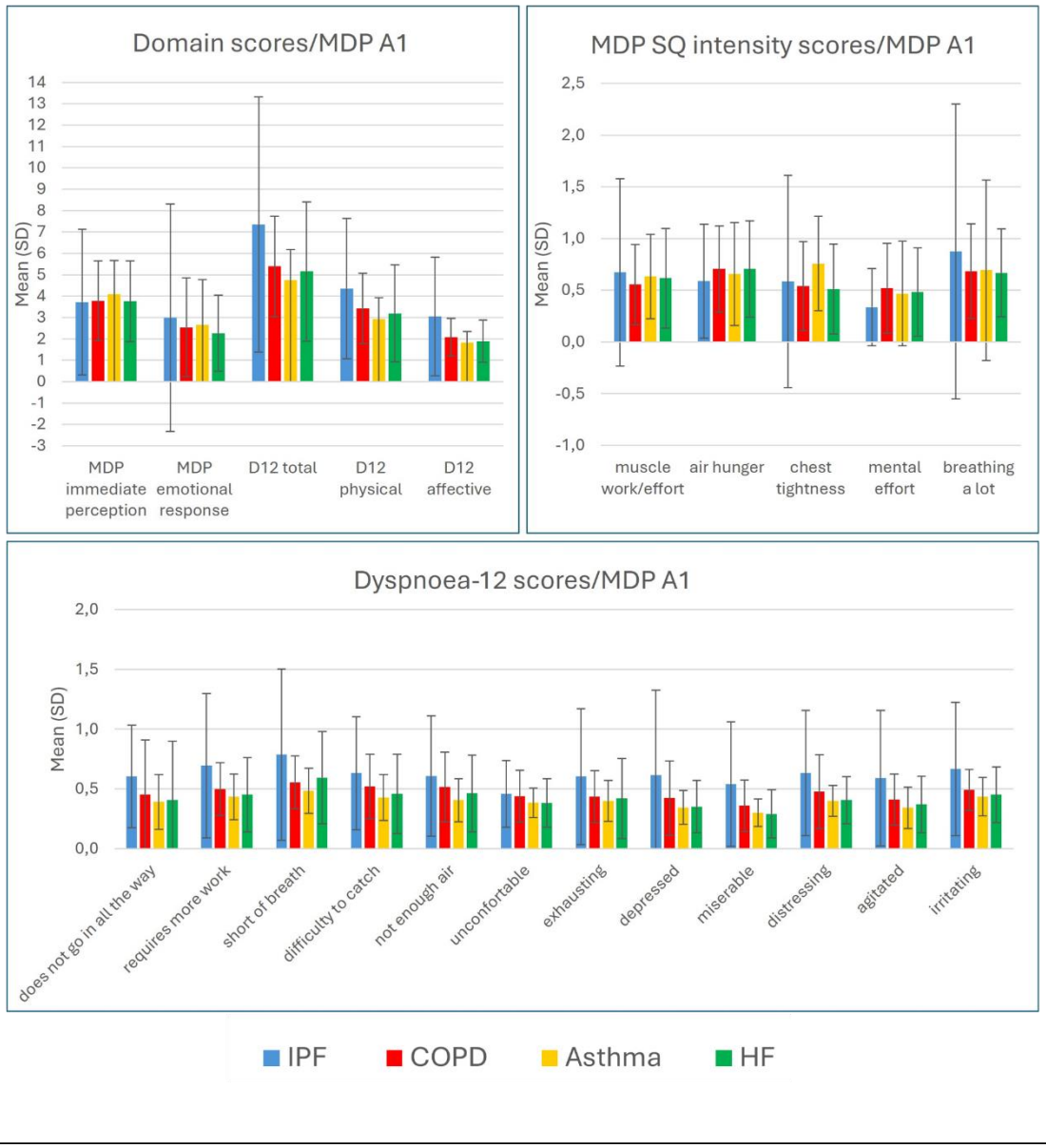
Results:

Across diagnostic groups, no significant differences were observed in MDP immediate perception, MDP emotional response, D12 total, D12 physical or affective domains, nor in the intensity of MDP and D12 descriptors.

However, the sensation of muscle work/effort was more frequently reported in asthma compared with IPF (OR 8.8 [95%CI 1.8-42.4]) and in obstructive diseases (COPD and asthma) compared with IPF and HF (OR 3.1 [95% CI 1.2-7.9]). Furthermore, selecting chest tightness as predominant descriptor was strongly associated with asthma and obstructive disease (OR 7.6 [1.1-52.0] compared with IPF and OR 6.6 [2.4-18.6] compared with IPF and HF respectively).

Conclusion:

Intensities of multidimensional dyspnea instruments did not systematically differ between patients with asthma, COPD, IPF and HF when accounting for the overall severity of breathlessness. Nevertheless, qualitative aspects of dyspnea varied: patients with obstructive diseases more frequently described sensations of muscle work/effort and chest tightness as key components of their breathlessness experience.


Domain scores/MDP A1
Mean (SD)
MDP immediate perception
MDP emotional response
D12 total
D12 physical
D12 affective
MDP SQ intensity scores/MDP A1
Mean (SD)
muscle work/effort
air hunger
chest tightness
mental effort
breathing a lot
Dyspnoea-12 scores/MDP A1
Mean (SD)
does not go in all the way
requires more work
short of breath
difficulty to catch
not enough air
unconfortable
exhausting
depressed
miserable
distressing
agitated
irritating
IPF
COPD
Asthma
HF