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**MONITORING EARLY NEUROMUSCULAR TRAINING IN CHRONIC INPATIENTS WITH COPD AND HF: CHANGES IN %SpO<sub>2</sub> AND HEART RATE.**

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**Objective.**

Exercise training provides symptomatic relief in patients with chronic obstructive pulmonary disease (COPD) (1) and Heart Failure (2). It reduces inflammation and enhances autonomic function, ventilation, VO<sub>2</sub> kinetics, hemodynamics and metabolic responses. Moreover, it has been prescribed during hospitalization (3, 4). This study aims to analyze blood oxygen saturation (%SpO<sub>2</sub>) dynamics in a group of COPD and HF elderly inpatients following early exercise-training, since we hypothesize that %SpO<sub>2</sub> is a non-invasive, cheap variable which allows controlling and adjusting the training load, therefore, ensuring safety despite the illness exacerbation.

**Methods.**

31 elderly inpatients from the Short Term Unit (Hospital General of Alicante; 23 male, 8 female; 79.39±8.71 years, Charlson index of 7.18±1.98; Barthel index of 79.24±23.72) underwent usual medical care plus 1 to 3 training sessions of neuromuscular exercise combined with respiratory exercises (5). Heart Rate (HR) and %SpO<sub>2</sub> were registered continuously (3100 WristOx portable finger-probe pulse oximeter; Nonin), but only 4 sampling conditions were retained for further analysis: before (0) and following training (1 min [1], 5 min [5] and 30 min [30] after).

**Results.**

Table 1 shows some descriptives and the results of the Student T-test for related samples, considering separately the first session for all subjects (S1), the second (S2), and the third one (S3). We found some fluctuation in HR, but there were only significant differences in HR<sub>1</sub> vs. HR<sub>0</sub> (S1). %SpO<sub>2</sub> showed a great stability, with no significant differences at all.

**Conclusions.**

HR and SpO<sub>2</sub> data confirm the absence of risk in COPD and HF early exercise interventions, at least within the neuromuscular and respiratory approach. The stability shown by SpO<sub>2</sub>, provides its use to modulate the intensity along the session, avoiding apnea and cardiorespiratory discomfort. New studies may show if %SpO<sub>2</sub>, more than HR, allows to graduate training loads in COPD and HF training.