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Changes in cognitive function of cognitively impaired patients with COPD after pulmonary rehabilitation and 1-year follow-up: Preliminary data

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Pulmonary Rehabilitation (PR) is widely recognized as an important therapeutic intervention that improves health status in patients with COPD. However, the extent of the improvements in cognitive function after PR in COPD patients with co-existing cognitive impairment has not yet been adequately investigated. We wish to compare changes in cognitive function after 3-week PR program and at 1-year follow-up in Cognitive Normal (CN) and Cognitive Impaired (CI) patients with COPD. Methodology & Theoretical Orientation: Thirty-two COPD patients (FEV1: 43±14%; 44% women) referred to 3-week in-patient PR and classified as "CN" or "CI" according to the Montreal Cognitive Assessment (MoCA) cutoff-score (≤25points). Face-to-face and telephone-based cognitive assessment was performed at admission and discharge of PR, and at 1-year follow-up, respectively. Overall cognitive performance was assessed by the "Telephone (T-) Interview for Cognitive Status" (T-ICS), whilst domain-specific cognitive evaluation also included T-MoCA and T-SMMSE. Changes in cognitive performance from admission to discharge and at follow-up were compared in CN and CI COPD. Findings: Thirteen patients (41%) showed evidences of CI and low performance in cognitive tests. From admission to discharge, CI patients had comparable increase on overall cognitive performance (Effect Size; ES: 0.53) compared to CN (ES: 0.65) improving memory (ES: 0.55), whilst had positive changes on attention (ES: 0.44), language/ executive (ES: 0.36), and fluency (ES: 0.32). From discharge to follow-up, CI patients had comparable deterioration on overall cognitive performance (ES: -1.26) compared to CN (ES: -1.59) decreasing attention (ES: -1.42), whilst had negative changes on memory (ES: -0.86), language/executive (ES: -0.34), fluency (ES: -0.10). Conclusion & Significance: Cognitively impaired patients with COPD improve to similar extent cognitive function after a 3-week PR program compared to CN and have comparable cognitive deterioration after 1-year. These changes in cognitive function may be dependent on the baseline levels of cognitive performance in COPD.

Biography

Vasileios Andrianopoulos is a clinical exercise physiologist / researcher working as postdoctoral research fellow at Schoen Klinik Berchtesgadener Land in Germany. He has his expertise in COPD pathophysiology, COPD-related cognitive impairment, clinical exercise assessment and Pulmonary Rehabilitation programs for COPD patients. Devoting himself to research, he acquired experience in designing research protocols, analyzing data and writing manuscripts as well as in operating several clinical devices. He has numerous scientific publications in healthy individuals and COPD patients. Since 2014, he is an active member of the European Respiratory Society (ERS) College of Experts and recently, in 2016, he has been awarded with a prestigious Marie Skłodowska-Curie fellowship co-funded by the European Union (EU) and the European Respiratory Society (ERS) for his project about cognitive dysfunction in patients with COPD.

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