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CONFERENCE ABSTRACT

Effect of a Sort Term Integrated Care Program on Exercise Tolerance, Quality of Life and Functional Capacity in Patients with Long Covid-19 Syndrome

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Background: Exercise tolerance, quality of life (QoL) and functional capacity are reduced in patients suffering from long COVID-19 syndrome several months after the acute phase of the disease. The effect of an ordinary pulmonary rehabilitation (PR) on exercise tolerance, QoL and functional capacity in these patients is inconclusive.

Aim: To investigate the effect of a sort term, hybrid Integrated Care (IC) program, combining an initial outpatient PR and a home-based, Information and Communication Technology (ICT) supported follow up on exercise capacity, QoL and functional capacity in long COVID-19 syndrome patients.

Methods: 42 patients (age (mean ± SD): 55.9 ± 12.0 yrs.) with excessive fatigue due to long COVID-19 syndrome (FACIT score (26 ± 10) were allocated to PR (n=27) or usual care (UC) (n=15) groups 139 ± 81 days from hospital discharge. PR was provided by a multidisciplinary team including chest physician, cardiologist, clinical exercise physiologist, physiotherapist and medical dietitian. PR intervention consisted of 8 outpatient PR sessions (twice weekly for 4 weeks), and 24 home-based follow up sessions (3 times/week for 8 weeks). During the 24 home-based sessions, patients completed an exercise diary and the exercise load was adjusted in a weekly basis based on the reported symptoms. The weekly communication with the patients performed via video calls through free access applications. Physiotherapy and nutrition support was provided to the patients throughout the 3 month intervention via video calls. Patients in the UC were advised to be physically active. Exercise tolerance was assessed during a cardiopulmonary exercise test to the limit of tolerance (Tlim). QoL was assessed via FACIT, CAT, EQ-5D, mMRC, BECK, HADS and Impact Event Scale–Revised (IES-R) questionnaires. Functional capacity was assessed via SPPB, 60 seconds sit-to-stand test, 6MWT, and by assessing the levels of daily physical activity.

Results: In the IC group, work rate was increased by 19±10 Watt (p=0.001), at 3 month assessment, compared to baseline. Moreover, compared to baseline, FACIT, CAT, and mMRC scores were improved following PR in the PR group by 15±9 (p=0.001), 7±5 (p=0.001), 1.4±1.1 (p=0.001), respectively. Additionally, compared to baseline 6MWT, 60 seconds STS and daily physical activity were improved at 3 month assessment in the PR group by 72±63 (p=0.001) meters, 4±3 (p=0.001) repetitions and 1300±1511 steps/day (p=0.001), respectively. In contrast, in the UC group, only mMRC was improved at 3 month assessment compared to baseline by 0.7±0.6 (p=0.008).Compliance with the home-based follow up programme was 95%. Finally, number of remote sessions with the medical dietitian was 2.4±0.9.

Conclusions: Compared to UC, application of a 3-month hybrid IC programme improves exercise tolerance, QoL and functional capacity in patients with long COVID-19 syndrome. Moreover, application of a hybrid PR programme is feasible and well accepted from the patients with long COVID-19 syndrome.