

11351**A retrospective observational study of face-to-face versus hybrid phase II cardiac rehabilitation program during COVID-19 pandemic**

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Fundació Institut Universitari per a la recerca a l'Atenció Primària de Salut Jordi Gol i Gurina, Unitat de Suport a la Recerca de la Catalunya Central, Sant Fruitós de Bages, Spain

Funding Acknowledgements: Type of funding sources: Public grant(s) – National budget only. Main funding source(s): With the support of: Col·legi de Fisioterapeutes de Catalunya [R02/2018] Health Department of Generalitat de Catalunya. Instrumental action of intensification of nursing professionals (SLT017/20/000098)

Introduction: Cardiac rehabilitation (CR) is a class I level A recommendation. The COVID-19 pandemic forced us to halt face-to-face patient physical exercise programs during the lockdown. Due to it, it was necessary to redesign the cardiac rehabilitation program (CRP) modality to achieve the goals of CR.

Purpose: To assess the impact of the COVID-19 pandemic in the functional capacity of cardiac patients who finished phase II CRP and to determine the impact of the CRP modality performed during COVID-19 period.

Methods: We conducted a retrospective observational study with patients admitted to our CRP from October 2019 to June 2021. Eligible patients were diagnosed with myocardial infarction, unstable angina or chronic coronary syndrome, without cognitive deficit, with Barthel index >60 and providing signed informed consent. Patients attended to face-to-face CRP (pre-COVID-19) receiving supervised exercise training centre-based program consisting of 3 hours a week (spread over 3 alternate days) of supervised exercise training for 10 weeks. After COVID-19 lockdown (post-COVID-19), we designed a new hybrid model of CRP. It consisted in attending the supervised training centre-based sessions to ensure the correct learning of the physical exercise routine. Patients continued this practice for their own under telemonitoring by video call once a week. Face-to-face and hybrid models were offered according to the needs of participants. All patients performed an exercise stress test before and at the end of phase II (3 months).

Results: Ninety-one patients were included, 49 during pre-COVID-19 and 42 during post-COVID-19. Related to baseline characteristics, no statistically significant differences were observed between groups. Considering functional capacity, metabolic equivalent (MET) improved 0.8 (SD 1.7) and 1.3 (SD 1.6) ($p=0.186$) at 3 months in the pre- and post-COVID-19 period respectively. Related to the minutes of exercise, the increase was 0.8 (SD 1.6) and 1.3 (SD 1.6) ($p=0.108$) respectively. In the post-COVID-19 period, 18 patients took part in face-to-face model and 24 in hybrid version. In regard to baseline characteristics, patients in the hybrid model were younger than face-to-face version, 56.4 vs 61.1 years ($p=0.096$) and the low level of risk of CRP was higher in the hybrid model, 50.0% vs 16.7%; ($p=0.239$). Related to functional capacity, patients in the hybrid version had better baseline conditions, 8.0 (SD 2.3) vs 6.3 (SD 1.6) MET ($p=0.011$) and 8.2 (SD 2.3) vs 6.3 (SD 2.0) minutes ($p=0.007$). However, the improvements observed at 3 months were lower in the hybrid model, 0.9 (SD 1.6) vs 1.8 (SD 1.4) MET ($p=0.072$) and 0.9 (SD 1.5) vs 1.9 (SD 1.5) minutes ($p=0.028$).

Conclusions: COVID-19 pandemic did not affect the gains in functional capacity in phase II CRP. In the post-COVID-19 period, patients in both models increased their physical condition and the differences observed in the improvement were possibly due to the baseline risk level of CRP.