

11361**Home-based cardiac rehabilitation can reduce anxiety and depression in heart failure patients**

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Introduction: The current COVID-19 pandemic has led to significant changes in physical and mental health and has become a major challenge for cardiac rehabilitation (CR) programs. CR is an essential component in the treatment of heart failure (HF), as it improves cardiorespiratory fitness and quality of life, as well as reducing hospitalization rates. COVID-19 pandemic increased social isolation, and the CR centers were closed. Center-based CR requires the patient to travel to the hospital, which increases the risk of SARS-CoV-2 infection in this high-risk population. In this context, home-based CR can be an excellent strategy to reduce the physical and mental consequences of the social isolation imposed by the COVID-19 pandemic.

Objective: To test the effectiveness of a home-based CR program on cardiorespiratory fitness and anxiety and depression levels in individuals with HF during covid-19 pandemic.

Methods: Forty-two individuals with HF (age: 61.3 ± 12.0 ; LVEF: 37.5 ± 11.2) were included in this study. The exercise training program consisted in 12 weeks of combined exercise training (2x/week; 60min/day, 60-80% VO_{2peak}), with 4 supervised exercise sessions in the hospital context and the remaining at home. Patients were monitored using a heart rate monitor and weekly phone calls. The following parameters were evaluated: cardiorespiratory fitness through the 6-minute walk test (6MWT) and anxiety and depression levels through the Hospital Anxiety and Depression Scale (HADS).

Results: After the home-based CR program, there was a significant increase in the 6MWT of 49 meters (95%IC: 38 to 60; $p < 0.001$) and a significant decrease in anxiety levels of -1.12 points (95%CI: -2.163 to -0.075 $p = 0.036$). No significant changes were found in depression levels ($p = 0.954$). Furthermore, the improvements in cardiorespiratory fitness were significantly associated with the reduction in the levels of anxiety ($r = -0.281$; $p = 0.028$) and depression ($r = -0.278$; $p = 0.030$).

Conclusions: The home-based CR program was able to improve cardiorespiratory fitness and this improvement was associated with a decrease in anxiety and depression levels in individuals with HF. The results suggest that home-based CR can be an important strategy to minimize the physical and mental impact induced by social isolation imposed by COVID-19 pandemic in HF patients.