

The Effects of 13 Cardiac Rehabilitation Sessions on Functional Capacity, Health, and Dietary Status in Heart Failure Patients

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Introduction: Cardiac rehabilitation exercise training has been shown to confer many clinical benefits in patients with heart failure (HF). With more than 650,000 new cases diagnosed each year the importance of continuing to elucidate the benefits of exercise training in this population will continue to rise.

Purpose: The aim of the current study was to evaluate the effectiveness of 13 cardiac rehabilitation sessions on function capacity, physical and mental health, quality of life, and dietary habits in a group of HF patients. Our hypothesis was that 13 sessions of contemporary cardiac rehabilitation would significantly improve functional capacity, physical and mental health, quality of life, and dietary habit scores when compared to baseline.

Design: The current study was a retrospective cohort study.

Methods: Data from thirteen adults (Mean \pm SD: 66.9 \pm 11.7 yr, 171.7 \pm 12.4 cm, 84.8 \pm 12.6 kg) with diagnosed HF were used in the current analyses. Patients underwent clinically supervised exercise in cardiac rehabilitation two times a week for a total of 13 sessions. Prior to starting the program, and at the end, all patients completed a 6MWT and five qualitative outcome surveys; the Duke Activity Status Index (DASI), Dartmouth COOP, Patient Health Questionnaire (PHQ-9), Dietary Fat Screener, and Sodium Intake Screener. The DASI questionnaire was used to measure functional capacity whereas the Dartmouth COOP and PHQ-9 questionnaires were used to measure quality of life/health status and mental health, respectively. The Dietary Fat Screener and Sodium Intake Screener were used to measure dietary behaviors. Data were analyzed using paired *t*-tests to compare pre- and post-assessment values in order to determine statistical significance. A Bonferroni correction was applied to the statistical comparison to correct for the potential inflation of the overall Type I error rate, resulting in an alpha level of <0.008 being required for statistical significance.

Results: 6MWT and DASI results significantly improved after 13 sessions of cardiac rehabilitation when compared to baseline ($p < 0.008$). In contrast, the Dartmouth COOP, PHQ-9, Sodium Intake Screener, and Dietary Fat Screener values were statistically similar between pre-and post-assessments after 13 cardiac rehabilitation sessions.

Conclusions: Findings from the current study suggest that 13 sessions of cardiac rehabilitation may improve functional capacity in HF patients. However, addition visits may be necessary to impact other key outcome indicators.