

Outpatient Cardiac Rehab Outcomes – Heart Failure vs. Non-Heart Failure

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Introduction: Heart failure (HF) is a growing problem across the US. With an increase in the aging population and the recent Medicare coverage expansion in cardiac rehab (CR) to include systolic heart failure, CR programs will be seeing increased numbers of HF patients.

Purpose: To investigate the differences in CR outcomes between patients with and without HF.

Significance: Cardiac rehab programs will be seeing a large increase in HF patients and this study provides data on expected outcomes compared to non-HF patients.

Design: A cross-sectional study design was used for CR facilities participating in the Montana Outcomes Project.

Methods: The sample included over 16,400 patients representing 145 programs from 22 states. The time frame for data collection was from October 2012 through June 2014. Statistical analysis included Chi-square and ANOVA tests with p-value of ≤ 0.05 indicating statistical significance.

Results: Seventy-one percent of the patients were male, and the average age was 67.0 years. Patients with HF were significantly more likely to have diabetes (DM) (35% vs. 26%) and myocardial infarction (MI) (10% vs. 5%) compared to patients without HF. Program completion rates were similar in both groups (79% vs. 78%) as were smoking rates at baseline (11.8% vs. 11.8%) and post CR (4.3% vs. 4.2%). However, smoking cessation referral rates were higher in the HF population compared to non-HF patients (79% vs. 68%). At baseline and follow-up, HF patients had significantly poorer quality of life (QOL), depression, and functional capacity scores. However, there was no significant difference in the improvement of mean scores related to QOL between groups (SF36 physical: 7.8 vs. 8.0 and SF-36 mental: 1.5 vs. 1.7). Improvements in the mean PHQ-9 depression scores were significantly better for HF patients compared to those without HF (2.54 vs. 2.17). Non-HF patients had significantly greater improvements in mean change related to functional capacity (METs) as measured by the Duke Activity Status Index (DASI) (1.73 vs. 1.52).

Conclusion: Patients with HF have a higher incidence of comorbidities, including DM and MI, but enjoy many of the same benefits from CR as non-HF patients. While patients with HF had poorer pre- and post-CR scores compared to non-HF patients, the rate of improvement was similar in the QOL scores and significantly better in relationship to the PHQ-9. In contrast, patients without HF had a rate of improvement in the DASI that was significantly greater than that of the HF population.

Implication: Patients with HF typically carry more comorbidities but elicit positive benefits from participating in CR. Efforts to recruit patients with HF into CR should be encouraged.