Abstract

Introduction: It has been well documented that regular physical activity (PA) can improve cardiorespiratory and muscular fitness. However, there is less research that highlights the impact of PA on education interventions on PA behavior and depression. Purpose: For cardiac patients undergoing formal cardiac rehabilitation, the intervention consists of diet, exercise, and risk reduction education. Much of the cardiac rehabilitation literature highlights physical adaptations due to the exercise therapy, however, the purpose of the current study was to evaluate the relationship between the number of completed Cardiac Rehabilitation (CR) sessions and health and behavior related outcomes in a group of cardiac patients. Design: The current investigation was a retrospective cohort study. Methods: Data from one hundred and eighteen adults (Mean ± SD: 65.1 ± 12.2 yrs; 172.6 ± 9.2 cm; 85.3 ± 18.0 kg; 28.6 ± 5.3 BMI) participating in phase II CR were used in the analyses. All participants voluntarily enrolled in CR which consisted of clinically-supervised exercise training and diet, exercise and risk reduction education for up to 36 sessions. Participants were categorized within a Low (3-12 sessions), Moderate (13-24 sessions), or High Compliance (25-36 sessions) group according on how many CR sessions were completed. Dependent variables included percentage change in pre and post scores on various surveys including Dartmouth COOP (Dart), PHQ-9, Nutrition Quest Sodium Screener (SS), Nutrition Quest Fat Screener (FS), and Duke Activity Status Index (DASI). Pre/post data were analyzed using paired t-tests for participants within each exercise group. To mitigate potential inflation of the overall Type I error rate, a Bonferroni correction factor was applied to the statistical comparisons, resulting in a p-value of < 0.000 required for determining statistical significance. Results: Within the Low Compliance group, the DASI was statistically improved between measurements (p-value < 0.000). The Moderate Compliance group resulted in statistically significant improvements for Dart, PHQ-9, SS, and DASI (p-value < 0.000). Dart, PHQ-9, SS, FS, and DASI were all significantly improved between measurements for the High Compliance group (p-value < 0.000).

Conclusion
The results of the current study indicate there is benefit to attending CR at each level. However, the increase in benefit corresponds with an increase in number of sessions attended. Therefore, the data suggests that 25-36 CR exercise sessions may result in greater benefits when compared to less than 25 CR exercise sessions in this population.