Differences in effects of Cardiovascular Rehabilitation between genders on self-reported measures of functional capacity, quality of life, eating habits and depression in cardiac patients.

S. Daugherty1, A. Wishman1, E. Davila1,2, A. Holm3
1Department of Cardiac and Pulmonary Rehabilitation, Bozeman Health Deaconess Hospital, Bozeman, MT; 2Department of Exercise and Nutrition Sciences, Montana State University, Bozeman, MT; 3Department of Preventive Medicine and Public Health, University of Montana, Missoula, MT

ABSTRACT

Introduction: It has been well documented that attending Cardiac Rehabilitation will improve self-reported measures of functional capacity, dietary habits, quality of life and depression. Further benefits can be obtained from research highlighting the difference in effectiveness between genders. Purpose: Much of the cardiac rehabilitation literature highlights improvements in physical capabilities, however, the purpose of the current study was to evaluate the relationship between genders and health and behavior related outcomes in a group of cardiac patients receiving rehabilitation services. Design: The current investigation was a retrospective cohort study. Methods: Data from 220 adults, 169 Men (Mean ± SD: 66.02 ± 10.18 yrs; 177.79 ± 7.74 cm; 90.12 ± 14.80 kg; 28.52 ± 4.79 BMI) and 51 women (Mean ± SD: 64.08 ± 12.77 yrs; 160.64 ± 6.91 cm; 70.79 ± 17.21 kg; 27.43 ± 6.43 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 by gender. Dependent variables included self-reported surveys such as the Dartmouth COOP (Dart), PHQ-9, Nutrition Quest Sodium Screener (SS), Nutrition Quest Fat Screener (FS), and Duke Activity Status Index (DASI). Pre/post data was analyzed using t-tests for participants within each category. 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 < 0.01 required for determining statistical significance. Results: The data analysis showed no statistically significant differences between genders for the SS (p < 0.01). The male category improved by 14.83% while the female category improved by only 7.97%. Conclusions: The analyzed data suggests that current resources provide equal benefit between genders for most areas, however further education may be required to decrease sodium intake among female participants in CR. Further research regarding the significance and cause of this trend may provide beneficial information to improve adherence to Cardiac Rehabilitation programs.

METHODS

Data from two hundred and twenty adults, 169 Men (Mean ± SD: 66.02 ± 10.18 yrs; 177.79 ± 7.74 cm; 90.12 ± 14.80 kg; 28.52 ± 4.79 BMI) and 51 women (Mean ± SD: 64.08 ± 12.77 yrs; 160.64 ± 6.91 cm; 70.79 ± 17.21 kg; 27.43 ± 6.43 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 by gender. 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 < 0.01 required for determining statistical significance.

RESULTS

The data analysis showed no statistically significant differences between genders for Dart, PHQ-9, FS, or DASI scores. However, there was a statistically significant difference between genders for the Nutrition Quest Sodium Screener (SS) (p < 0.01) showing that Men decreased their sodium score (SS Mean change: 6.28) significantly more compared to Women (SS Mean change: 2.65).

OTHER IMPLICATIONS

Observation of data in this study indicated Women who enrolled in Cardiovascular Rehabilitation showed a higher non-completion rate (31%) compared to Men (20%). Further research regarding the significance and cause of this trend may provide beneficial information to improve adherence to Cardiac Rehabilitation programs.

CONCLUSIONS

The analyzed data suggests current resources provide equal benefit between genders for most areas, however further education may be required to decrease sodium intake among female participants in CR. These finding provoke further research on the cause of non-completion between genders, methods to decrease non-completion rate, and improve diet education.