The Impact of Supervised Exercise using a Phase II Cardiac Rehabilitation Framework on Select Outcomes among Patients with Heart Failure

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Introduction

US Statistics
- Currently > 5.7 million 20people with current dx with heart failure (HF)
- Estimated to increase to >8 million between 12-2020
- Total costs to Medicare estimated at >$30 billion/year (Mozaffarian, et al., 2013)
- $17 billion related to readmissions within 30 days (Hass & Randall, 2010)

Significance of Study
- Cardiac Rehab is recognized as a class 1 A recommendation to assist patients with most cardiac events/dx to learn self management techniques and improve quality of life.
- Prior to 2014, Medicare would not reimburse for cardiac rehab services for the diagnosis of heart failure stating lack of evidence to support inclusion.
- February 2014 Medicare updated policy to allow a small subgroup of HF patients (Ejection fraction <35%) to attend cardiac rehabilitation but continues to state lack of evidence to support attendance for all heart failure patients.

Aims
1. To determine the impact of a supervised exercise program on the functional capacity, quality of life, and depression in patients with heart failure
2. To determine if a supervised heart failure exercise program decreases the rate of hospital readmission

Methods

Design
- Retrospective/Prospective pre/post control study of HF patients who participate in cardiac rehab program
- Participants: patients with stable New York Heart Association (NYHA) class II/III-IV diastolic or systolic heart failure
- Convenience sampling

Inclusion criteria:
- Age 18 or older, speak/read English, cleared by cardiologist to participate

Exclusion criteria:
- severe cognitive impairment limiting ability to follow directions or answer simple questions
- paraplegia/quadriplegia or physical/orthopedic disabilities limiting ability to perform exercise
- hemodynamic and medical instability

Results

Table 1: Quality of life Assessment KCCQ

| 30% Average Improvement QOL score (t = -7.35, p<.01) |

Table 2: Depression PHQ-9

| 47% Average Decrease in depression score (t = 5.86, p<.01) |

Table 3: Functional Status 6MWD

| 22% Average improvement (t = -7.35, p<.01) |

Conclusion

Participation in a supervised exercise program resulted in clinically and statistically significant positive changes in depression scores, quality of life scores, functional status, and rates of readmission as shown in tables 1-4.

Implications for Clinical Practice

Recently, Medicare updated policy to allow cardiac rehabilitation coverage for a small subset of HF patients (EF <35%). Medicare continues to deny all HF patients coverage stating lack of evidence to support inclusion. Dissemination of these positive current results may provide support for additional changes in Medicare policy coverage providing all HF patients access to supervised exercise programs.

In September 2015, an IRB approval was sought and granted to increase the sample size from 70 total HF patients to 140 pts (70 pts EF <35% and 70 pts EF >35%) to allow for additional data analysis within the sample.

References

