Health Beliefs Related to Physical Activity in Patients Living with Implantable Cardioverter Defibrillators

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ABSTRACT

The purpose of this study was to examine health beliefs (perceived benefits, barriers and self-efficacy) related to physical activity (PA) and quality of life adults living with implantable cardioverter defibrillators (ICDs).

- Based on the average PA scores, ICD recipients in this study spend approximately twelve hours a day (not including sleep time) being sedentary. As planned aerobic activity, most frequently study subjects reported spending time on aerobic activities. In addition, the majority of study participants indicated their level of PA had remained the same and one third of subjects reported a decrease in PA since ICD implantation.
- Perceived benefits of exercise were not predictive of PA participation in this population of adult ICD recipients. Perceived barriers to PA were not predictive of incidental PA; however, they were significantly correlated with planned PA (p < 0.05) and accounted for almost ten percent of variance in planned PA. Self-efficacy beliefs explained the largest percent of variance in total PA participation (23 percent), indicating the strength of self-efficacy in predicting PA in adult ICD recipients.
- Theoretical variables in this study were significantly correlated with many of the quality of life (QOL) subscales, which may indicate the power of one’s beliefs on perceived quality of life. Variables significantly correlated with most all QOL subscales were perceived barriers and self-efficacy beliefs.

OBJECTIVES

In a sample of adult ICD recipients, study aims were to:
- Describe and examine relationships between and among sociodemographic characteristics, health beliefs, PA participation, QOL, type of ICD, and New York Heart Association Heart (NYHA) Classification;
- Assess for differences in health beliefs and PA participation in adult ICD recipients implanted for primary versus secondary prevention and finally;
- Predict PA participation using health beliefs and modifying factors while controlling for severity of heart disease (HF Class) and ICD type.

BACKGROUND

Introduction/Background

- Implantable cardioverter defibrillators (ICDs) save lives of people who are at risk for or have survived sudden cardiac death. Over 1.5 million ICDs have been implanted since 1993 yet to date research regarding physical activity (PA) in adults living with ICDs is limited.
- Physical activity is well documented as a fundamental component in prevention and management of cardiovascular diseases, diabetes, heart failure, chronic lung disease and other co-morbidities correlated with a sedentary lifestyle. 5,7
- PA has also been shown to offer similar and other important physical and psychological benefits to patients living with ICDs. 5,9,11 Including risk reduction for cardiovascular disease; improving physical function and self-confidence; stabilizing autonomic function; protecting against future arrhythmias; improving quality of life (QOL) and reducing health care costs 11,13.
- Despite the benefits of regular PA and research showing moderate PA to be safe in adults living with ICDs many do not engage in PA.
- Low levels of PA are considered a significant predictor of early mortality in ICD recipients.11

RESULTS

Of the sample (N = 81);
- No differences in QOL and Health Belief Scores between subjects with an ICD for primary versus secondary prevention of sudden cardiac death.
- 33% variance in total PA participation can be explained by:
  - Self-efficacy for Exercise (SEE) (β = .390, p < .01); (accounted for almost 23% variance)
  - Self-efficacy after ICD (SEIDC) (β = .215, p < .05);
  - Age (β = .234, p < .01);
  - New York Heart Association (NYHA) Heart Failure Class (β = .198, p < .05) and
  - ICD Type (β = .014, p > .05).
- Perceived Barriers (β = -.310, p > .01) accounted for 9.3% of variance in planned PA.

CONCLUSIONS

- Findings indicate the strength of self-efficacy in predicting PA participation in adult, ICD recipients.
- More research is necessary to identify barriers to PA specific to living with an ICD
- ICD recipients need continued education/support with regards to PA participation after ICD implantation.