Predictors of depression in outpatients with heart failure: An observational study

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ABSTRACT

Background: Depression is a common comorbidity of heart failure. Little is known about the influence of heart failure symptomatology and coping resources, such as social support and social problem-solving, on depression.
Objective: To examine whether individual and clinical characteristics, heart failure symptomatology, and the subcomponents of social support and social problem-solving increase the likelihood of depression in outpatients with heart failure.
Methods: A secondary data analysis of a cross sectional study with 201 outpatients with heart failure was conducted. The following self-report questionnaires were used to collect data: the Heart Failure Symptom Survey, the Interpersonal Support Evaluation List-12, the Graven and Grant Social Network Survey, the Social Problem-Solving Inventory Revised-Short, and the Center for Epidemiological Studies – Depression scale. Descriptive statistics examined patient characteristics. Logistic regression explored predictors of depression from among individual and clinical characteristics, heart failure symptomatology, and subcomponents of social support (i.e., belonging, tangible, and appraisal support) and social problem-solving (i.e., positive and negative problem orientation; rational, impulsiveness/carelessness, and avoidance problem-solving styles).
Results: The sample was primarily Caucasian (86.1%) male (62.6%) with an average age of 72.57 years. Individuals who were unmarried, experienced a higher symptom burden, and those who perceived less belonging support were more likely to be depressed. The subcomponents of social problem-solving did not influence depression.
Conclusions: Belonging support was the most beneficial type of social support related to depression. Components of social problem-solving were not related to depression. Assessment of marital status, heart failure symptomatology, and perceived belonging support is needed to identify potential stressors and available social support in order to promote psychological adaptation.

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What is already known about the topic?

- Heart failure affects approximately 26 million individuals worldwide.
- Depression is a common co-morbidity of heart failure.

What this paper add:

- Non-married individuals with HF are more likely to suffer depression.

- Individuals experiencing more HF symptoms are more likely to suffer depression.
- Individuals with HF reporting decreased belonging support, or perceiving there are fewer people available with which to do things, are more likely to be depressed.

1. Introduction

Heart failure (HF) has reached epidemic status, with approximately 26 million individuals currently living with HF worldwide (Ponikowski et al., 2014). As a primary diagnosis, HF accounts for up to 4% of hospitalizations in developed countries and continues

to be associated with high mortality rates (Mozaffarian et al., 2015; Ponikowski et al., 2014). Symptoms of HF increase as HF progresses (Butler, 2010), creating the potential for high levels of stress (Graven et al., 2015a). In fact, depression is often a co-morbid condition, with studies indicating that as many as 50% of HF patients report some degree of depressive symptoms (Brouwers et al., 2014; Heo et al., 2014a; Rutledge et al., 2006). In turn, depression in HF patients is associated with poor outcomes, including increased hospitalizations and mortality (Jenner et al., 2009; Yohannes et al., 2010), making depression an important co-morbidity that must be clinically assessed and managed. Thus, identification of risk factors associated with depression is necessary for accurate clinical assessment.

Symptoms of HF are complex and vary among patients, creating potential for psychological distress. Evidence suggests symptoms of HF influence depressive symptoms, particularly as symptomatology increases (Graven et al., 2015a; Fan and Meng, 2015). Symptomatology is often examined according to disease severity and functional status as operationalized by the New York Heart Association (NYHA) HF Class (Brouwers et al., 2014; Maeda et al., 2013; Shimizu et al., 2014). Yet, evidence indicates that the NYHA HF Class may not be representative of patients' self-assessed symptoms (Raphael et al., 2007). Thus, examining the totality of the symptom experience (i.e., frequency, severity, and amount of interference with daily life) may provide more accurate information regarding the influence of HF symptomatology in predicting depression in this population.

Social support and social problem-solving are important coping resources that may impact the development of depression (Lazarus and Folkman, 1984). Evidence suggests that social support is related to depression in patients with HF. Lower levels of support and lack of satisfaction with support are found to influence depression (Chung et al., 2013; Friedmann et al., 2014; Shimizu et al., 2014). Furthermore, social support may actually influence the relationship between HF symptom severity and depressive symptoms, thereby decreasing the risk of depressive symptoms (Graven et al., 2015a).

However, social support is a multifaceted construct of which its subcomponents (i.e., functional and structural support) have not been adequately examined in prior research. Functional support is defined as individuals' perception of support provided by significant others and includes belonging (i.e., availability of people to do things with), tangible (i.e., provision of good and services), and appraisal support (i.e., assistance with self-evaluation and affirmation by others) (Cohen et al., 1985). In contrast, structural support is the concrete provision of support through interaction with one's social network (i.e., individuals or groups within individuals' community) (Fig. 1) (Graven et al., 2015b). While studies have identified the importance of social support on depression in HF patients (Chung et al., 2013; Graven et al., 2015a; Friedmann et al., 2014 Friedmann et al., 2014), components of social support which are most beneficial in influencing depression remain relatively unknown (Heo et al., 2014b), prompting more research in this area. Further, knowledge of the potential value of these individual components may assist in assessing and managing HF patients regarding depression.

How individuals problem-solve HF-related issues on a daily basis may also influence depression. Social problem-solving involves how individuals manage problems or make decisions in a real world environment and includes problem orientation (e.g., whether they view problems in life positively or negatively) and problem-solving style (e.g., the approach they use to solve problems). Individuals use specific problem-solving skills to manage everyday problems and identify effective solutions. These skills are typically reflective of specific problem-solving styles (i.e., rational problem-solving, impulsivity/carelessness, and avoidance styles) and may either be constructive or dysfunctional (D'Zurilla et al., 2004; Elliott et al., 2004). Rational problem-solving style is a constructive approach to solving problems which involves deliberate and systematic methods aimed at solving problems, including problem identification, generation of possible solutions, active decision-making, and solution implementation and evaluation. Impulsivity/carelessness style is characterized by impulsive, hurried, and incomplete attempts at applying problem-solving
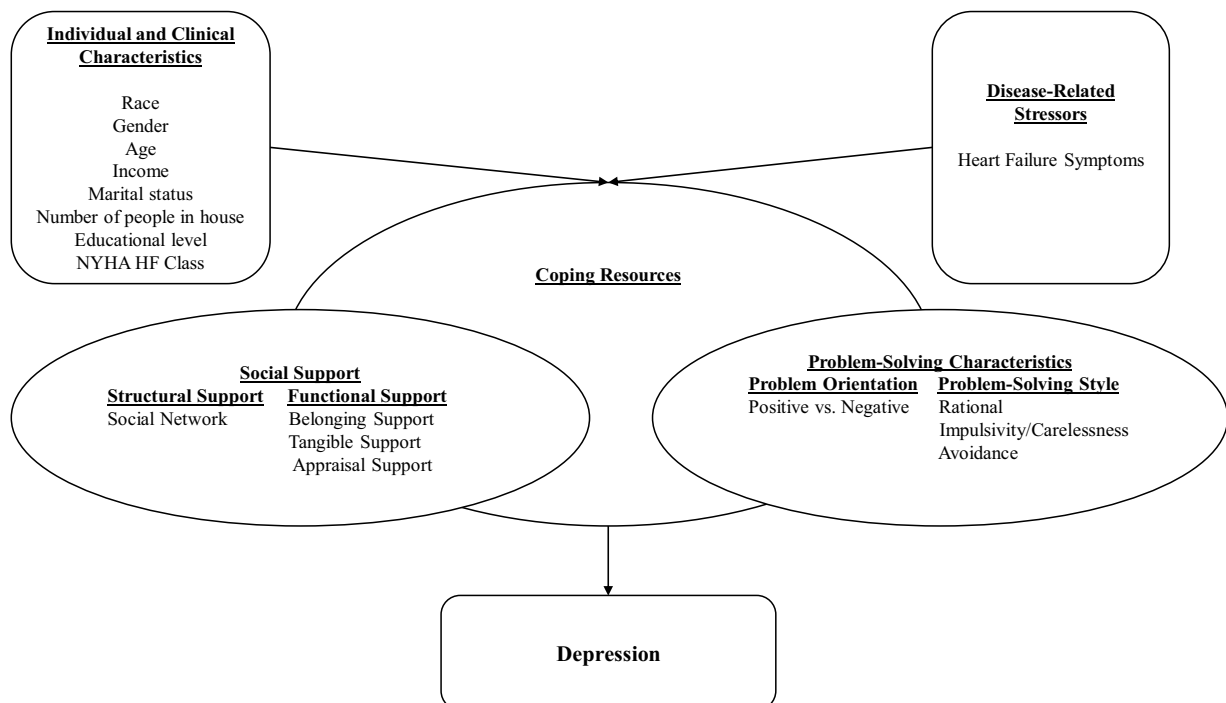

Fig. 1. Theoretical Framework based upon Lazarus and Folkman (1984).