

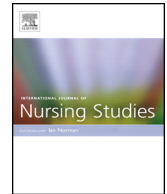


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Self-care confidence may be the key: A cross-sectional study on the association between cognition and self-care behaviors in adults with heart failure

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ABSTRACT

Background: Self-care, a key element of heart failure care, is challenging for patients with impaired cognition. Mechanisms through which cognitive impairment affects self-care are not currently well defined but evidence from other patient populations suggests that self-efficacy, or task-specific confidence, mediates the relationship between cognitive functioning and patient behaviors such as self-care.

Objective: The aim of this study was to test the mediating role of self-care confidence in the relationship between cognition and self-care behaviors.

Design: A secondary analysis of data from a cross-sectional study.

Setting: Outpatient heart failure clinics in 28 Italian provinces.

Participants: 628 Italian heart failure patients.

Methods: We used the Self-Care of Heart Failure Index v.6.2 to measure self-care maintenance, self-care management, and self-care confidence. Cognition was assessed with the Mini Mental State Examination. Structural equation modeling was used to analyze the data.

Results: Participants were 73 years old on average (SD = 11), mostly (58%) male and mostly (77%) in New York Heart Association functional classes II and III. The mediation model showed excellent fit (comparative fit index = 1.0; root mean square error of approximation = 0.02): Self-care confidence totally mediated the relationship between cognition and self-care maintenance and management.

Conclusion: Cognition affects self-care behaviors indirectly, through self-care confidence. Interventions aimed at improving self-care confidence may improve self-care, even in heart failure patients with impaired cognition.

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What is already known about the topic?

- Cognitive impairment is an issue in 25–50% of adults with heart failure.
- Cognition may predict self-care behaviors (self-care maintenance and self-care management) but literature is inconsistent on the topic.

- The situation specific theory of heart failure self-care specifies that self-care confidence is a mediator between predictors of self-care behaviors and self-care behaviors themselves.

What this paper adds

- Self-care confidence totally mediates the relationship between cognition and self-care maintenance and self-care management.
- The situation specific theory of heart failure self-care is supported.
- Interventions aimed at improving self-care confidence in heart failure patients may be successful in improving self-care behaviors in adults with heart failure.

1. Introduction

Heart failure is an extremely prevalent syndrome in developed and developing countries (Go et al., 2014). Outcomes associated with heart failure are poor, with patients experience increasing symptoms as the syndrome progresses (Lam and Smeltzer, 2012). Symptoms are responsible for a decline in functional status, deteriorating health-related quality of life (HRQL), repeated hospitalization, and early demise (Falk et al., 2013; Murthy and Lipman, 2011; Song et al., 2010). A growing body of research demonstrates that self-care by patients can improve these outcomes (Ditewig et al., 2010; Jones et al., 2012; Tung et al., 2013). Self-care involves a process of maintaining physiological stability by monitoring symptoms, adhering to the treatment regimen (self-care maintenance), and promptly identifying and responding to symptoms (self-care management) (Riegel and Dickson, 2008). Clinicians are challenged by the difficulties associated with engaging patients in self-care (Gardetto, 2011).

Self-care requires that patients have knowledge and skills, both of which are influenced by cognition (Dickson et al., 2008). Cognitive impairment is recognized as an issue in 25–50% of adults with heart failure (Dodson et al., 2013; Gure et al., 2012; Pressler, 2008). Most studies investigating the relationship between cognitive impairment and self-care have demonstrated that heart failure patients with cognitive impairment are poor at self-care. For example, Harkness et al. (2013) found that patients with mild cognitive impairment scored significantly lower in self-care management than those without cognitive impairment. Alosco et al. (2012) found that patients with lower (worse) scores on the Mini Mental Status Examination were more likely to fail in medication management, a dimension of self-care. Smeulders and colleagues (2010) found that heart failure patients with better cognitive status benefitted more from a chronic disease self-management program compared to patients with poorer cognitive function. Only one investigative team found no relationship between cognition and self-care (Cameron et al., 2009), although in a subsequent study the same investigators (Cameron et al., 2010) found that heart failure patients with mild cognitive impairment exhibited lower self-care management and self-care confidence than patients without cognitive impairment.

Hajduk et al. (2013) found no association between overall cognitive status and self-care in heart failure patients, but when they analyzed specific domains, impaired memory was associated with poor self-care while executive function and processing speed were not. This inconsistency suggests that cognition is not a direct predictor of self-care behaviors in patients with heart failure.

Mechanisms or pathways through which cognitive impairment affects self-care are worth clarifying because they may suggest targets for intervention. One potential mechanism is self-efficacy or task-specific confidence, which has been defined as confidence in the ability to perform the various self-care behaviors (e.g. confidence in one's ability to follow a low salt diet) (Riegel and Dickson, 2008).

The situation specific theory of heart failure self-care (Riegel and Dickson, 2008; Riegel et al., 2015) specifies that self-care maintenance (monitoring of heart failure symptoms and adhering to treatments) influences self-care management (the response of patients to signs and symptoms of a heart failure exacerbation) and that both are influenced by self-care confidence. Therefore, the overall purpose of this study was to test self-care confidence as mediating the relationship between predictors of self-care and the self-care behaviors of maintenance and management (Riegel and Dickson, 2008).

To date, few researchers have investigated the role of confidence in influencing self-care behaviors. Cene and colleagues (2013) found that perceived emotional and informational support was associated with better self-care maintenance and possibly better self-care management in a sample of heart failure patients. A similar result was found by Sayler et al. (2012) who showed that self-care confidence mediated the relationship between social support and self-care maintenance and between social support and self-care management. In a mixed method study Dickson et al. (2008) found that patients with lower self-care confidence and impaired cognition had lapses in self-care behaviors and were classified as “inconsistent” while those with higher self-care confidence and better cognition were better in self-care and were classified as “experts”. Building on prior studies illustrating that cognitive impairment and self-care confidence are both predictors of self-care behaviors and building on the situation specific theory of heart failure self-care that proposes confidence as a mediator of the relationship between self-care behaviors and its predictors, the specific objective of this study was to evaluate whether self-care confidence mediates the relationship between cognition and the self-care behaviors. Specifically we hypothesized that cognition affects self-care maintenance and management only indirectly by its influence on self-care confidence (Fig. 1).

2. Methods

2.1. Design

A secondary analysis of data from a descriptive, cross-sectional study was performed. The aim of the parent study was to describe self-care and caregiver contributions to

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