



Original Article

Self-efficacy and depression predicting the health-related quality of life of outpatients with chronic heart failure in Singapore^{☆,☆☆}



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ABSTRACT

Background: Chronic heart failure (CHF) remains as a debilitating disease that has high mortality among adults worldwide. CHF negatively impacts an individual's health-related quality of life (HRQoL), but only few studies have investigated such an impact in the Asian population.

Aims: This study aims to investigate the HRQoL of outpatients with CHF and identify its predictors among this group of patients in Singapore.

Methods: This was a cross-sectional, descriptive correlational study. A convenience sampling of 121 outpatients with CHF was recruited from a public hospital over 5 months. The Minnesota Living with Heart Failure Questionnaire (MLHFQ), Short Form-Cardiac Depression Scale, Cardiac Self-Efficacy Scale, and Medical Outcomes Study Social Support Survey were used to measure the study variables.

Results: There were significant differences in the HRQoL as assessed using the MLHFQ between gender, educational level, and primary caregiver status ($p < 0.05$). Self-efficacy ($\beta = 0.637, p < 0.001$) and depression ($\beta = -0.220, p < 0.001$) were found to be the predictors of the HRQoL in outpatients with CHF, accounting for 67.9% of variance.

Conclusion: The results of the study indicated that lower levels of self-efficacy and depression predicted poor HRQoL. Nursing care should focus on detecting depressive symptoms in patients with CHF. A program facilitating better self-care is important in CHF management.

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1. Introduction

Chronic heart failure (CHF) is a debilitating syndrome characterized by an impaired heart function whereby the heart is unable to pump sufficiently to meet the body's needs (Huetner & McCance, 2008). CHF is an increasing problem that threatens the health among adults worldwide. It is estimated that 5.1 million people in the United States (Yancy et al., 2013) and one million people in the United Kingdom (National Institute for Clinical Excellence & National Collaborating Centre for Chronic Conditions, 2003) were affected by this illness. Similarly, the number

of patient with CHF in Singapore is comparable to other developed nations. Cardiovascular diseases are the second leading cause of death (16.1%) and third commonly known cause of hospitalizations in 2012 in Singapore (Health Fact Singapore, 2012). The rising incidence and prevalence of CHF are due to an aging population and higher survival rate from primary cardiac events (Santhanakrishnan et al., 2013).

Living with CHF can be challenging and turbulent. Patients suffer from a wide range of symptoms like breathlessness, fluid retention, functional impairment, and fatigue (Chu et al., 2014). Many report poor coping, poor quality of life, and emotional distress (Seah, Tan, Gan, & Wang, 2015; Son et al., 2012). Previous studies have reported the negative impacts of CHF on HRQoL affecting both men and women (Banerjee et al., 2014; Corvera-Tindel, Doering, Roper, & Dracup, 2009; Dekker et al., 2011; Shen et al., 2011). In particular, outpatients with CHF had relatively poorly perceived health which was due to the chronicity of the illness and the disruptive nature of recurrent hospitalizations (Corvera-Tindel et al., 2009). They also experienced higher levels of depressed moods (Banerjee et al., 2014). Heo, Lennie, Moser and Kennedy (2014) reported that CHF was contributing to strained marital and family relations. Poor HRQoL in patients with CHF led to poorer

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health outcomes and exacerbating disease progression (Heo et al., 2014).

While many research studies agree that CHF is a debilitating disease that poses great challenges to not only the physical, but also the psychological and social aspects of patients' lives, many have also revealed that practicing self-care behaviors mitigates the impact of CHF (Britz & Dunn, 2010; Chen, Yehle, Plake, Murawski, & Mason, 2011; Zavertnik, 2014). The term “self-care” is used to generally describe the actions that patients undertake toward promoting good health (da Conceicao, dos Santos, dos Santos, & da Cruz Dde, 2015). “Self-care”, “self-efficacy” and “self-management” were sometimes used interchangeably or with a specific reference in the literature (Ferreira et al., 2015; Oosterom-Calo et al., 2012). Schnell-Hoehn, Naimark, and Tate (2009) reported that higher levels of self-care were correlated with fewer hospital admissions. Similarly, Chiaranai (2007) found that participants who frequently performed self-care with confidence maintained a healthy lifestyle and responded quickly to symptoms. Given the paucity of knowledge about HRQoL and the influencing factors in patients with CHF in Singapore, current study aimed to examine the HRQoL of outpatients with CHF, and to identify its predictors. Understanding patients' HRQoL and its predictors is an imperative first step for the planning, organization, and delivery of effective interventions for patients with CHF.

1.1. Conceptual framework

Wilson and Cleary (1995) proposed the model of HRQoL that mainly combines two paradigms, the biological and psychosocial aspects of health. It gave rise to five conceptual domains which were closely related and interacted with one another. These domains are: (1) biological function, (2) symptom status, (3) functional status, (4) general health perceptions, and (5) overall HRQoL (Wilson & Cleary, 1995). Fig. 1 offers a visual description of the interaction between these 5 domains. The model provided a clear definition and explanation of relationship between listed concepts, and allowed for application across different healthcare disciplines (Ferrans, Zerwic, Wilbur, & Larson, 2005).

In this study, the biological function was defined and measured by the specific variables of patient's left ventricular ejection fraction (LVEF) and comorbidities; symptom status is measured by New York Heart Association (NYHA) classification (Criteria Committee of the NYHA, 1994). Social-demographic data, such as age, gender and education levels were considered as individual characteristics. General health perceptions were observed via the measure of patient's perceived self-efficacy, and lastly, patient's overall HRQoL was operationalized by measuring patient's perceived mental and physical wellbeing. Wilson and Cleary (1995) model of HRQoL framework guided the development and execution of the study in consolidating current literature to understand the impact of CHF on HRQoL among outpatients in Singapore.

2. Research methods

2.1. Study design, setting and participants

A cross-sectional, descriptive correlational study design was adopted in this study. Participants were recruited through convenience

sampling from outpatient cardiology clinics at a tertiary hospital in Singapore. Outpatients on follow-up cardiac appointments, cardiac rehabilitation programs, outpatient treatments and procedures, or consultation were approached and invited to participate in the study. The inclusion criteria include: (1) clinical diagnosis of CHF; (2) aged 21 years old and above; and (3) being able to speak and/or read English/Chinese. Patients who (1) have a known history of psychiatric illness and (2) have other severe chronic diseases, including chronic kidney disease, cancer, or stroke, were excluded.

The sample size was calculated to maintain the appropriate statistical power for the statistical tests used in the data analysis. Multiple linear regression analysis was used to identify the predictive factors of the HRQoL of outpatients with CHF. Based on the literature review, we had selected a total of 6 factors (i.e. age, length of diagnosis, depression, social support, self-efficacy, and classification of New York Heart Association [NYHA]) as independent variables (Chapa et al., 2014; Friedmann, Son, Thomas, Chapa, & Lee, 2014; Son et al., 2012). A minimum of 97 participants were required for achieving a medium effect size at a power of 80% and 5% significance level (Cohen, 1992).

2.2. Research instruments

2.2.1. Minnesota Living with Heart Failure Questionnaire

The Minnesota Living with Heart Failure Questionnaire (MLWHFQ) was used to measure the HRQoL. It is a disease-specific instrument and has been extensively used to measure how individuals living with heart failure (HF) perceive its impact on their daily lives (Son et al., 2012). The MLWHFQ consists of 21 items, grouped into physical and emotional dimensions. A 6-point Likert scale from 0 (no impact) to 5 (very high impact) was used with the score ranges of 0 to 40 for the physical dimension, 0 to 25 for the emotional dimension, and total score ranging from 0 to 105. A higher score indicated poorer HRQoL. The MLWHFQ has demonstrated good reliability with a Cronbach's alpha of 0.91 (Son et al., 2012). The Chinese version of the MLWHFQ has been tested among Chinese-speaking patients with HF and has good validity and reliability with a Cronbach's alpha of 0.95 for the overall scale and 0.94 to 0.95 for the subscales (Ho, Clochesy, Madigan, & Liu, 2007).

2.2.2. Short Form-Cardiac Depression Scale

The Short Form-Cardiac Depression Scale (SF-CDS) is a 5-item self-rating scale that measures depressed mood in cardiac patients (Hare & Davis, 1996; Shi, Stewart, & Hare, 2008). The rating score ranges from 1 (strongly disagree) to 7 (strongly agree) on each item. A higher score indicated higher levels of depressive symptoms. The SF-CDS has been reported to have good internal consistency with a Cronbach's alpha of 0.82 (Shi et al., 2008). The SF-CDS has been translated into Chinese and tested in Chinese-speaking patients with heart disease. The Chinese version of the SF-CDS has also demonstrated good validity and reliability with Cronbach's alpha of 0.76 (Wang, Ski, Thompson, & Hare, 2011).

2.2.3. Cardiac Self-Efficacy Scale

Self-efficacy was assessed by the Cardiac Self-Efficacy Scale (CSS), a 16-item questionnaire which assesses the patient's confidence in two

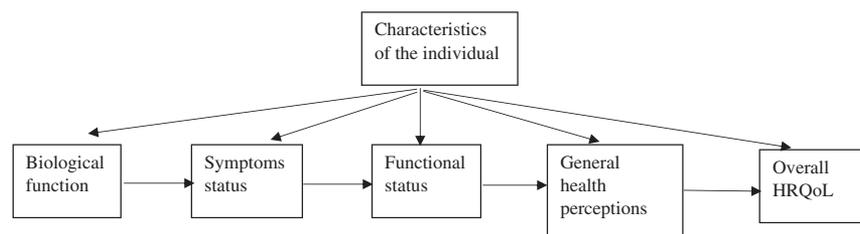


Fig. 1. Adapted from revised Wilson and Cleary model for HRQoL (Ferrans et al., 2005).

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