Self-Management and Quality of Life in Older Heart Failure Patients

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Brief Report

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Abstract

Background: Older patients with heart failure in the outpatient setting are challenged by age-related decline in the ability to detect and interpret physical symptoms. Objective: The purpose of the study was to assess the relationship between age and self-management on health related quality of life (HRQOL) of heart failure patients at least 65 years of age in an outpatient setting. Method: In this descriptive, correlational study, 26 participants diagnosed with Class II-IV Heart Failure age 65 and older were interviewed. Results:Participants who demonstrated better self-management also reported better HRQOL (*r* = 0.51, *p* = 0.007). There was a significant negative correlation between age and self-management (*r* = -0.409, *p* = 0.038), suggesting that older participants reported poor abilities to recognize and act on their heart failure symptoms. Conclusion: Detailed assessments are critical in identifying age-related factors in older adults that may prevent recognition and reporting of heart failure symptoms.

*Keywords:* Heart failure, Disease management, Self-care, Quality of life.

Self-Management and Quality of Life in Older Heart Failure Patients

Heart failure is a very serious chronic and progressive cardiovascular disease and is a common reason for hospitalization of patients over 65 years of age.1 There are approximately five million Americans with clinically manifested heart failure.2 About ten percent of patients have advanced heart failure where conventional treatments and symptom management strategies are ineffective.3 More than 825,000 new cases of heart failure are diagnosed annually, resulting in a total healthcare cost of more than $30 billion. Furthermore, the number of deaths from heart failure continues to rise despite advances in treatment, with nearly 300,000 deaths with heart failure as the main or contributory cause.2

The American Heart Association (AHA) 3 defines heart failure as a chronic, progressive condition in which the heart muscle is unable to pump enough blood to meet the body's needs for blood and oxygen. Heart failure has a physical and functional impact on the body which causes patients to exhibit symptoms such as shortness of breath, fatigue, weight gain, swelling, and unpredictable life changing events leading to hospitalization.4 Early symptom detection is a key element in managing heart failure and can improve quality of life in heart failure patients.5

There is currently no cure for heart failure and treatment is based on strategic management by healthcare providers and patient education. There continues to be an increase in medical treatment for chronic heart failure, however patient prognosis remains poor.6 The key to successful management of heart failure is effective self-care.7 Heart failure self-care is defined by Riegel and Dickson8 as a patient’s ability to make decisions that involve maintaining physiologic stability (maintenance) and responding to their heart failure symptoms (management). The impact of heart failure on well-being is significant as quality of life and self-care deteriorate more rapidly with poor self-management.9

In the outpatient setting, older patients are often independent in activities such as cooking, home care, and self-care. With heart failure, daily functioning decreases, resulting in further decline in health-related quality of life. Older patients with heart failure are more dependent on others which is significantly associated with inadequate self-management.12 Self-management in heart failure requires a multidimensional, multidisciplinary approach by healthcare providers which is tailored to individual patient needs.10 Healthcare providers have an important role in encouraging patient education and self-management in efforts to promote better disease management of heart failure patients. Incorporating evidence-based findings in patients’ plans of care is critical to improving quality of life. The purpose of the study was to assess the relationship between age and self-management on HRQOL of heart failure patients at least 65 years of age seeking care in an outpatient setting.

**Background**

Living with heart failure can be challenging for everyone with the disease regardless of age. Day-to-day symptom management such as weight monitoring, dietary restrictions, medication management, and doctor’s visits are some of the responsibilities of heart failure patients. These daily tasks require cognitive alertness, orientation, physical energy and confidence.14 Experiences of emotional, psychological, social, relational and physical consequences among heart failure patients were reported in previous review of heart failure patients’ experiences of living with chronic heart failure.4  Social isolation resulting from the daily regimen of managing heart failure, fear of not being able to manage or control the health situation and loss of control over illness are some of the unexpected impacts of the disease. Patients’ perceptions of how well they manage their disease are equal determinants of their health outcomes. Better management of heart failure requires the development of better confidence in self-care abilities to maintain and improve quality of life.11 Britz and Dunn (2010) also suggested that healthcare providers needed to better identify heart failure patients with low self-care confidence and provide educational interventions tailored to increasing confidence in their self-care abilities.11

**Literature Review**

Older patients are already challenged by the limitations of aging and co-morbidities. This, coupled with the symptoms of heart failure, may impact HRQOL. Common symptoms of heart failure such as shortness of breath, swelling, and tiredness are not easily identified by older patients as symptoms of heart failure exacerbation and were often related to something other than their heart failure such as comorbid conditions.13 Comorbid conditions such as depression, cognitive impairment and age-related functional limitations negatively impact self-care management of heart failure patients.14 Keen screening of functionality in older heart failure patients by their health care providers will determine how effectively they manage their disease. If heart failure symptoms are not recognized by patients early, they cannot expediently perform the kinds of self-management strategies that would ultimately prevent acute exacerbation and hospitalization.

Older heart failure patients experienced more physical than mental fatigue.12 In a recent study of older patients with heart failure, researchers found that older patients’ abilities to assess the meaning of heart failure symptoms was complicated by their sedentary lifestyle and comorbid illness.13 In the outpatient setting, patients may experience chronic symptoms of heart failure such as dyspnea on exertion and fatigue versus acute heart failure symptoms such as fluid overload resulting in acute onset of shortness of breath. Finding ways to help older heart failure patients to better identify these symptoms may be beneficial in early detection of exacerbations and prevention of hospitalizations. Jurgens et al. suggested that clustering heart failure symptoms such as weight gain, dyspnea and fatigue together may help older patients recognize and relate their symptoms specifically to their heart failure. Additionally, they suggested adding exercise to increase patients’ tolerance to physical activities and help manage fatigue.15

Neither symptom monitoring nor self-management is optimal in older patients with heart failure. Consequently, additional research may be necessary to further explore patients’ personal experiences of heart failure and self-care abilities.14 Older patients exhibit decline in social, cognitive, and physical functioning and those with lower levels of functioning demonstrate worse self-management capabilities than those with higher levels.16 Older patients with any chronic disease depend on social support from family members, friends, or social groups to increase confidence in their disease management. Having a good support system during chronic disease treatment enhances self-management abilities and results in improved HRQOL.20 Strategies engineered by multidisciplinary heart failure management teams with the help of healthcare providers are effective in providing interventions to promote self-management and decrease hospitalization.5 Proactive interventions by providers may help to identify older patients at risk for poor self-management.13 This study will explore self-management abilities in heart failure patients and the impact on HRQOL.

**Method, Study Design and Sample**

A convenience sample of 35 patients with heart failure, ages 65 and older was recruited from an outpatient cardiology clinic in the southern United States. Of that sample, 26 patients agreed to participate in the study. Twenty-one patients were successfully interviewed through the initial call. Five patients requested call-backs due to timing, and two patients requested a break during the interview due to fatigue. The two patients who requested a break during the interview were offered a call-back another day but declined and the interview was completed in one session.

Inclusion criteria consisted of diagnosis of class II-IV heart failure, age 65 years and older and English-speaking. Criteria for exclusion consisted of disorientation or confusion, new onset and/or acute and transient heart failure from a recent heart attack or surgery. Symptoms of ischemia and surgical complications can present as dyspnea, introducing a confusing variable. Demographic data such as gender, age and education level were obtained through patient interview.

**Procedure**

Permission to conduct the study was obtained from the clinic and Institutional Review Board (IRB) approval was received from the University of Alabama. Patients were recruited into the study following informed consent. Clinical and demographic data such as age, gender, level of education, and heart failure functional class were obtained through chart review and telephone interview. The Self-care of Heart Failure Index version 6 (SCHFI) and the Minnesota Living with Heart Failure questionnaire (MLHFQ) were completed by telephone interview

**Instruments**

The SCHFI was used to measure heart failure self-care. The 22-item questionnaire consisted of three subscales: self-care maintenance, self-care management, and self-care confidence with high scores indicating better self-care abilities. Responses were based on a four-point Likert scale (1=never/rarely, 2=sometimes, 3=frequently and 4= always/daily). Psychometric testing of the SCHFI scale on 760 heart failure patients was conducted with findings of adequate coefficient alpha of 0.76 representing internal consistency of the tool.17 In the present study, coefficient alpha was 0.81.

Quality of life was measured using the MLHFQ.18 Permission was given to use the tool. The MLHFQ is a heart failure-specific instrument consisting of 21 questions which measures how patients perceive the effects of their heart condition on physical functioning, psychological, and socioeconomic wellbeing. A 6-point Likert scale (0=not at all to 5=very much) was used to measure how much each of the 21 items had prevented patients from ideal functioning in the past month. Higher scores indicated poorer quality of life**.** In a study by Rector (2005), adequate alpha coefficient of 0.94 was noted, representing internal consistency of the tool.19  In a more recent study by Bean et al.,20 assessing health-related quality of life in 100 heart failure patients, excellent internal reliability was reported (α=0.96). In this study coefficient alpha was 0.82.

**Results**

**Sample Characteristics**

There were 26 community-based participants who agreed to participate in the study, 11 (42.3%) female and 15 (57.6%) male. On average, participants were 75.4 years old with ages ranging from 65 to 100 years. Participants were functionally impaired in heart failure Class II (38.4%), Class III (34.6%) and Class IV (26.9%). On average, most participants had at least a high school level of education (53.8%).

**Data Analysis**

Descriptive statistics including mean, frequencies and standard deviations were calculated. Bivariate analyses were computed to find the correlation between age, self-management, self-maintenance, self-confidence, and HRQOL (see Table 1). All data were analyzed using SPSS v22 software with statistical significance preset at 0.05. Significant positive correlation was noted between self-maintenance and HRQOL (*r* = 0.35, *p* = 0.83) and a negative relationship noted between age and self-maintenance. This result demonstrated that older participants were less able to maintain their health with heart failure, therefore decreasing their quality of life. Additionally, participants who demonstrated better self-management reported better HRQOL (*r* = 0.51, *p* = 0.007). However, there was a significant negative correlation between age and self-management (*r* = -0.409, *p* = 0.038), suggesting that older participants reported poor abilities to recognize a decline in their heart failure and take action to relieve their symptoms. Significant negative correlation was noted between age and self-confidence (*r* = -0.45, *p* = 0.02), and better HRQOL was reported by participants who also had higher self-confidence (*r* = 0.51, *p* = 0.008). Older participants were therefore less confident about managing their symptoms, resulting in poorer quality of life.

**Discussion and Conclusions**

Not surprisingly, poor self-management was reported in this study, and was associated with poor HRQOL in older heart failure patients. Older patients had a decreased ability to recognize their heart failure symptoms. This could be due to age-related functional limitations such as vision and hearing loss and motor decline.14 In the outpatient setting, older patients experienced difficulty differentiating between chronic and acute heart failure symptoms. Chronic symptoms such as dyspnea on exertion and fatigue were misinterpreted as decreased activity tolerance from age, or caused by something other than heart failure. Delay in symptom recognition may lead to exacerbation of heart failure and could result in hospitalization and increased health cost. The results of this study support findings by Riegel et.al, that older patients have more difficulty in heart failure symptom detection and interpretation than younger patients. 13

In this age group, self-confidence was also decreased. In the present study, patients reported being less confident in keeping themselves free of heart failure symptoms and actively pursuing symptom relief. This result supports findings by Britz & Dunn (2010), that older heart failure patients were less confident in managing their heart failure and more likely to contact their health care provider for help.11 In addition, this study also found that patients with poor self-confidence and poor self-management abilities also had poor HRQOL. This association suggests that older patients require improvement in self-management in order to improve their HRQOL. Older patients have poorer HRQOL and their functional limitations often make them dependent on others for survival.14

Healthcare providers cannot depend solely on older heart failure patients to self-manage their symptoms. Proactive screening and interventions in the outpatient setting could have significant impact on the frequency of hospitalization, therefore lowering cost and improving health outcome. In the United States, physician office visits for heart failure alone cost nearly $2 billion annually.1 Providers can begin by identifying older heart failure patients with age-related functional limitations and co-morbidities during routine follow-up visits. Thorough assessments and measurements of self-management ability are key to successful outpatient management in this population. Better screening of older heart failure patients is also needed to assess social and cognitive functioning. Qualitative data by Volz et.al examined heart failure symptom recognition and concurred that older patients were not only uncertain about interpreting their symptoms but were also in need of an explanation on what their symptoms meant.6 Doctorally-prepared advanced practice nurses could be instrumental in developing programs that are focused on improving education about the disease and self-management in the elderly population. Efforts to clarify caregiver support are needed to promote early identification of changes requiring intervention as well. Self-care classes and support groups for both patients and care-givers could be beneficial in discussing symptom experiences and strategies for dealing with symptoms. Better self-management will increase self-confidence and may improve HRQOL and health outcomes.

**Limitations**

There were several limitations of the study that should be considered. First, sample size was small which limits the generalizability of the results. The data from the MLHFQ was taken at one point in time. A second analysis at a later time period to assess if there were any changes in HRQOL over time may be beneficial in demonstrating additional significant results. Future study with a larger population over a period of time may also yield clinically significant data.

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“What’s New and Important”

* Older patients in the outpatient setting experienced difficulty differentiating between chronic and acute heart failure symptoms.
* Better screening by healthcare providers is needed to identify older heart failure patients with low self-management abilities.
* More programs developed by doctorally-prepared advanced practice nurses are needed to provide heart failure education and support for older heart failure patients and caregivers in outpatient settings.

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| **Table 1**  *Correlations for Age, HRQOL, and SCHFI* | | | |  |
|  | | Participants Age | MLHFQ Score | SCHFI Self-management |
| Participants Age | Pearson Correlation | 1 | -.052 | -.409\* |
| Sig. (2-tailed) |  | .799 | .038 |
| N | 26 | 26 | 26 |
| MLHFQ Score | Pearson Correlation Sig. (2-tailed)  N | -.052  .799  26 |  | .506\*\*  .008  26 |
| SCHFI Self-management | Pearson Correlation | -.409\* | .506\*\* |  |
| Sig. (2-tailed) | .038 | .008 |  |
| N | 26 | 26 |  |

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Abbreviations: HRQOL, Health related quality of life. MLHFQ: Minnesota living with heart failure questionnaire. SCHFI: Self-care heart failure index