HEART & LUNG

Illness knowledge moderates the influence of coping style on quality of life among women with congestive heart failure

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ABSTRACT

OBJECTIVE: This study evaluated the relationship of coping style with quality of life (QoL) among women with congestive heart failure (CHF), and the role of illness knowledge in this relationship.

METHODS: Thirty-five women with CHF completed measures of coping style (anger-in, alexithymia, and emotional expression), illness knowledge, and emotional/physical QoL.

RESULTS: Symptoms of depression and anxiety were positively associated with anger-in ($P < .001$) and alexithymia ($P < .01$), and were negatively correlated with emotional expression ($P = .05$). Furthermore, illness knowledge moderated the relationship between anger-in and depressive symptoms ($P = .01$), such that high anger-in individuals with greater illness knowledge displayed greater depressive symptoms. Knowledge also moderated the relationship between emotional expression and anxiety ($P = .02$), indicating that low emotional expression was associated with greater anxiety among those with less illness knowledge. Depressive and anxiety symptoms, anger-in, alexithymia, and emotional expression were not correlated with physical QoL.

CONCLUSION: Illness knowledge is associated with poorer emotional QoL among those using denial-based coping styles, but a better QoL among those avoiding communication of their emotions.

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Congestive heart failure (CHF) has been diagnosed in more than 5 million people in the United States, and contributes to more than 250,000 deaths each year.[1] The mortality rates for CHF are higher among older adults and among African-American individuals.[1] Congestive heart failure is associated with impaired quality of life and reduced functional status,[2,3] as reflected in physical role impairment and psychological

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distress.[4-7] In turn, reduced quality of life (QoL) is associated with poor illness prognoses among cardiac patients.[8-10] Because of the prognostic implications of QoL in CHF patients, it is critical to identify factors associated with reduced physical and emotional QoL.

Factors affecting QoL are quite variable among patients with CHF and, more generally, among patients with coronary heart disease (CHD). One factor found to influence QoL in CHD patients is coping style (i.e., their cognitive approach to stress).[9-12] In particular, 3 aspects of coping were studied among patients with CHD, including repressive coping (i.e., individuals copes by avoiding their feelings), anger-in (i.e., a tendency to withhold angry emotions), and alexithymia (i.e., an inability to describe emotions in words). Although each of the 3 styles reflects unique elements, 1 common factor in the 3 coping styles is a tendency to avoid or minimize distress. Repressive coping (denial) is associated with depression and an increased risk of mortality among both male and female CHF patients.[13,14] Anger-in is a significant predictor of disease severity in CHD patients, possibly mediated by increased depression.[15,16] In addition, anger-in is associated with increased resting blood pressure and greater blood-pressure reactivity during behavioral stress, both of which may serve as mechanisms for the development or exacerbation of cardiac illness.[15,17-20] Alexithymia is associated with greater symptom expression and anxiety among patients with CHD.[21,22] Thus, avoiding or minimizing emotional expression may result in poorer disease outcomes for cardiac patients. This is consistent with meta-analysis results indicating that greater emotional expression among Type A men was associated with a lower risk of CHD.[23] Overall, data indicate health benefits of expressing emotion as well as negative health effects of avoiding or minimizing emotional expression. However, few studies evaluated emotional expression among patients with CHF, and no previous research examined the influence of anger-in, alexithymia, and emotional expression on QoL among CHF patients.

In addition, the relationship between coping styles and QoL may be moderated by the patient's knowledge about the illness. Patient education is a common component of hospital care in cardiac units and in cardiac rehabilitation. At a minimum, education is intended to inform patients about their illness, including medication management and recommended health behavior changes. However, illness knowledge may not be beneficial for all patients. One study documented greater sleep disturbance, depression, and tension among postmyocardial-infarction patients who engaged in repressive coping and who retained a high level of knowledge about their condition after hospital discharge, than among those repressors with low levels of illness knowledge.[24] No previous study examined illness knowledge as a moderator of the relationship between coping style and QoL among patients with CHF, despite the central role of education in the treatment of CHF.

Most previous research on cardiovascular disease focused on men, yet cardiovascular disease remains the leading cause of death among women in the United States.[25] Fortunately, recent studies have addressed this critical gap in the research literature. Several studies found that women with cardiac disease have poorer QoL than men,[26-28] which may lead to an increased risk for the development of CHF, higher levels of risk factors for cardiac disease (e.g., cholesterol, smoking, and body mass index), and faster progression of CHD.[29-31] Thus, psychological factors appear to be especially important for health and QoL among women with heart disease.

This study sought to examine the influence of coping style on QoL among women with CHF. A racially diverse sample was recruited to increase the generalizability of the results. The primary outcomes were emotional (depression and anxiety) and physical (general and disease-specific) QoL. This study also evaluated the moderating influence of illness knowledge. It was hypothesized that elevated anger-in and/or alexithymia, and/or low emotional expression, in the presence of greater illness knowledge, would be associated with poorer emotional and physical QoL.

METHODS

Participants

The sample included 35 women (60% Caucasian and 40% African-American; mean age, 55.7 ± 14.5 years) who participated in an 8-week social-support intervention study. Data from the baseline assessment were used for this study. All patients had received a physician's diagnosis of CHF, and most of the women ($n = 30$) were diagnosed with stage C CHF, according to the American Heart Association and American College of Cardiology guidelines. Heart-failure stage was indeterminate for 5 women who were at either stage C or stage D. The mean left-ventricular ejection fraction (LVEF) was 42.0% ($SD = 15.8\%$), and the mean body mass index (BMI) was 34.7 ($SD = 8.7$). Additional demographic and health information is included in Table 1.

Procedures

All experimental procedures received institutional review board approval. The requirements for study participation included female sex, age of at least 18 years, fluency in English, a diagnosis of stage C or D CHF by a cardiologist, and willingness to participate in a randomized study of a social-support intervention. Participants were recruited during an outpatient visit after being identified by medical staff as meeting the study requirements. At the point of recruitment, all participants provided written, informed consent, and