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Factors Impacting Readmissions of Older Patients With Heart Failure

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The overall purpose of this study was to explore individual perceptions of life purpose, health-related quality of life, and hospital readmissions among older adults with heart failure. The problem addressed the heart failure patient's lack of understanding about the diagnosis, treatment, management, and predictors of heart failure within a framework of the older adult's life purpose and health-related quality of life. The goal was to provide a foundation for development of safe and effective holistic intervention strategies to decrease costly hospital readmissions for patients with heart failure. The research design was descriptive, correlational mixed method using a qualitative and quantitative concurrent triangulation. The setting for the study was San Antonio, Texas, the seventh largest city in the United States. The purposive sample consisted of 41 male and female participants aged 60 years and older. The research findings suggest a moderate, significant relationship between life purpose and health-related quality of life. Higher numbers of hospital readmissions were significantly related to more difficulty with management of heart failure and a poor sense of life purpose. This study may contribute to science by providing useful information that may be used in the management of heart failure among older adults. **Key words:** *heart failure*, *life purpose*, *life quality*, *older patients*, *readmissions*

HEART FAILURE (HF) is a disease of epidemic proportions in the United States affecting more than 6 million people and continues to increase as the population ages.[1] A substantial number of patients with HF have frequent hospital readmissions. A vast number of studies have assessed incidence of HF beginning with the Framingham Heart Study in 1949.[2] Since then, many investigators and clinicians have examined methods for the diagnosis, treatment, and prevention as well as predictors of HF. In addition, the knowledge of the pathophysiology of HF has expanded substantially. Despite the enormous progress over the previous 2 decades, the morbidity and mortality of HF remain high.

As the population in the United States increases, the prevalence of HF also increases. Because of medical and technological advances, survival rates for HF have improved and the incidence of people living with HF has also climbed.[3] In addition, 40% of patients with HF are readmitted within 6 months of hospital discharge.[4] Many common medical and biological reasons for frequent readmissions have been identified. However, there is a lack of knowledge related to psychosocial issues, and no studies have been done that link readmissions with perceptions of life purpose (LP) or health-related quality of life (HRQOL).

Psychosocial factors are important because they place patients at risk for poor quality of life, rehospitalization, and high mortality. Some of these factors include social isolation, depression, and anxiety. It is essential for researchers and clinicians to explore these issues in the future.

The prevalence of HF is almost 6 million cases in the United States and exceeds 6.5 million cases in Europe.[5] These epidemiologic

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estimates include patients who have been diagnosed with HF by their physician.

Therefore, one might also consider that this number could be grossly underestimated because some patients with left ventricular dysfunction remain asymptomatic and undiagnosed.[5] The mean age of the HF population is estimated at 74 years. Approximately 750 000 new HF cases are diagnosed each year; therefore, the estimated healthcare administration cost is greater than $20 billion and accounts for 6.5% of the nation's total healthcare budget.[5] More significantly, morbidity and mortality rates related to HF are greater than those of most other human diseases. Indeed, HF is the only category of cardiovascular disease in which the prevalence, incidence, and mortality have increased progressively over the past 25 years.

According to epidemiologic data, there has been a dynamic upsurge in the incidence of HF over the past 2 decades. Original studies of HF began with the initial Framingham Heart Study that began in 1949. McKee et al[2] reported a marked relationship between incidence of HF and age. Additional seminal studies evolving from the Framingham study reveal that the annual incidence of HF increases 2-fold for each decade of age. Unfortunately, as the population ages, even with major advances in technology and increased knowledge of cellular mechanisms, pathophysiologic abnormalities, and surgical therapeutic options, the incidence of HF continues to rise. There has been much progress in the treatments for ischemic heart disease and hypertension. However, progressive follow-up shows no decline in HF incidence.

At present, there is a gap in the understanding of LP among older adults with HF. Published studies that investigate the relationship of LP and HRQOL in adults with HF are virtually nonexistent. Life purpose is the essential inner core within the HRQOL framework. For this study, LP was defined as the degree to which persons realize their own interpersonal, intrapersonal, and psychologic uniqueness based on personal life experiences that correspond with their spiritual values and goals at a specific time in their lives. The study is significant because the overarching goal was to provide a foundation for the development of safe and effective holistic intervention strategies to decrease costly hospital readmissions for patients with HF.

Hospital readmission was defined as a pair of consecutive hospital admissions to the same hospital where the time between discharge from the first hospitalization and admission for the second hospitalization was less than or equal to 90 days. This was further classified into 3 subgroups, depending on whether the time-to-admission was less than or equal to 30 days, 31 to 60 days, or 61 to 90 days.

Readmission of patients with HF to hospitals is commonly related to medical factors such as uncontrolled hypertension and infections; environmental factors such as lack of social support; and behavioral factors like nonadherence with medications, diet, and lifestyle changes. Furthermore, factors involving discharge planning, for instance, premature discharge and insufficient patient and family teaching, may play a major role in readmission. There is an extremely high rate of readmission after initial hospitalization among older adults with HF. Proctor et al[6] found that within the first 3 months after discharge, 33% to 40% of older adults with HF were rehospitalized. However, significant characteristics of readmission for HF continue to be debated. Ischemic heart disease, disease severity, low blood pressure, and a previous hospital admission for HF are some risk factors associated with hospital readmissions.[7] In a study by Schwarz and Elman,[8] characteristics related to hospital readmission were identified as severity of disease, cognitive and physical function, and caregiver relationships.

According to Prahash and Lynch,[9] elevated levels of B-type natriuretic peptide (BNP) indicate a poor prognosis with a higher mortality rate and more hospital readmissions. Many clinicians[9,10] proposed the use of BNP as a diagnostic and prognostic biomarker in the management of patients with HF. If validated in future studies, there is significant promise in improving treatment patterns and, ultimately, clinical outcomes of patients who have this common debilitating condition. Biomarkers may become more pertinent in the care of patients with HF, as emphasized by the recent induction of a point-of-care rapid assay for measuring BNP.[10]

Various studies have examined the characteristics predictive of hospital readmission. However, no studies were found that used a mixed methods approach providing a completeness of the data and imparting a breadth and depth to the investigation of those defining characteristics of hospital readmission among older adults with HF. In addition, there were no studies found that explored the relationships of LP and HRQOL on hospital readmission among older adults with HF.

CONCEPTUAL FRAMEWORK

After carefully reviewing the levels of abstraction, the conceptual orientation of HRQOL with LP contributes to the advancement of nursing knowledge as a situation specific or practice theory. Future studies addressing other diseases besides HF may potentially advance nursing knowledge as the practice theory evolves into a middle range theory. Only in the development stage at present, the actual theory remains to be stated although measurement instruments have been identified. The Purpose in Life Test[11] and the Minnesota Living with Heart Failure Questionnaire Revised (MHFQ-R)[12] are the 2 identified instruments.

Few research studies employing a mixed methods approach have addressed the psychosocial-spiritual-cultural aspects of the patient with HF in conjunction with the physiologic aspects. A primary assumptive base for the study was the belief that all aspects of HRQOL potentially influence older people's perception of their individual lives. The perceptions work in concert with the clinical manifestations of disease to influence illness management and perhaps the disease course. Using the conceptual orientation of HRQOL with LP may provide a clearer foundation to build on while promoting holistic care for the patient with HF. Ultimately, a study that focuses on these multidimensional aspects of the elderly patient with HF may contribute to the advancement of nursing knowledge and shed light on current HF management and treatment disparities by identifying potentially important nonpharmacologic interventions. According to Newman,[13] theory targets the practice and activities that are unique to the nursing profession, informs research efforts, and provides direction for future development. Therefore, expanding nursing science must ensue from a secure foundation of theory, research, and knowledge compelling persistent inquiry of extant paradigmatic/philosophic views.

The 2 major components of the evolving practice theory are HRQOL and LP. Through combining HRQOL and LP, the resulting clarification of the conceptual orientation may be useful to nursing research by providing a general orientation to the LP phenomenon that may improve management of the patient with HF.

This study incorporated an HRQOL theoretic framework with an individual perception's assumptive base. This assumptive base is consistent with the World Health Organization's (WHO) definition of QOL: "an individual's perception of their position in life in the context of the culture and value system in which they live, and in relation to their goals, expectations, standards, and concerns."[14(p1044)] The HRQOL framework seeks to encompass the WHO definition of health and QOL. Quality of life is the sense of well-being that speaks to multiple dimensions of life including emotional well-being, interpersonal relations, personal development, self-determination, and social inclusion.[15]

The conceptual orientation of HRQOL with LP was created for the purpose of this study and is congruent with an individual perception's assumptive base (Fig 1). The large outer circle represents the construct of HRQOL from an individual perspective with the domains divided equally into 5 sections. The smaller inner circle represents the concept of

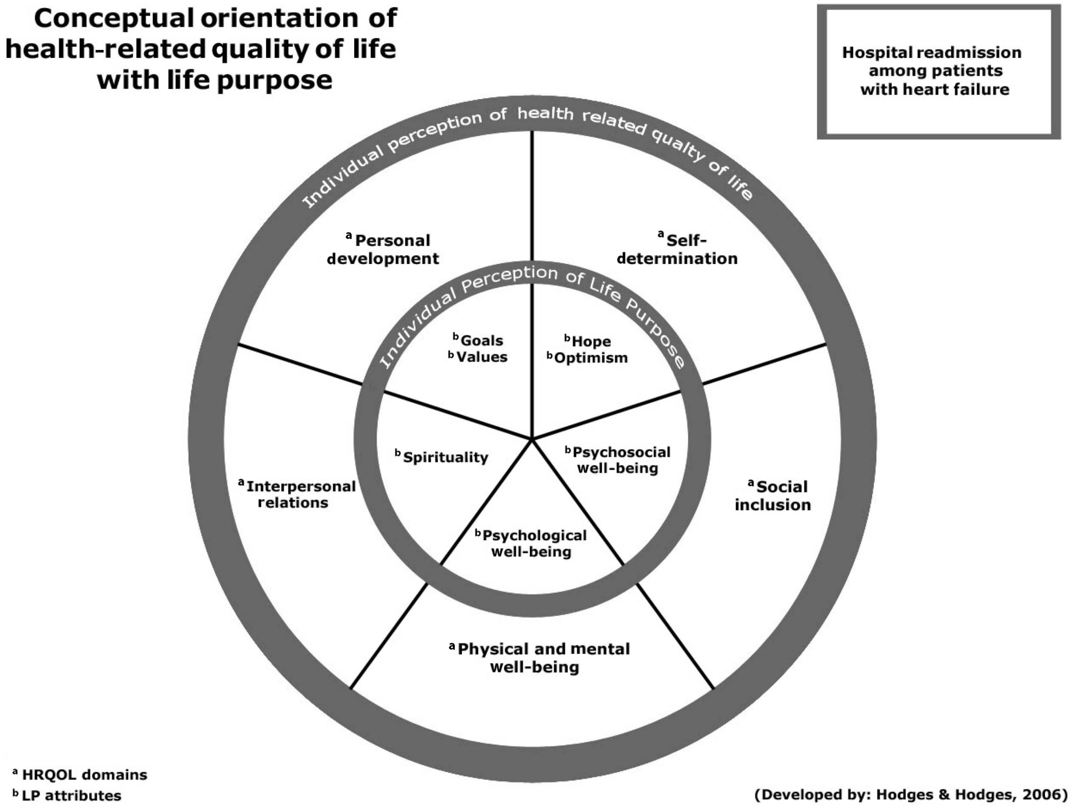

Figure 1. Conceptual orientation of heath-related quality of life with life purpose. HRQOL indicates health-related quality of life; LP, life purpose.

LP from an individual perspective with the essential attributes included within the inner circle but also falling within the 5 domains of HRQOL. There were no arrows indicating a directional relationship because the relations were revealed within completion of this study. This orientation occurs within the context of hospital readmissions among patients with HF as indicated in the regulation box at the top right corner of Figure 1.

This study employed the HRQOL framework with LP as the essential inner core embedded within the 5 HRQOL domains (Fig 1). Beginning at 12:00 noon on the model, hope and optimism, psychosocial well-being, physiologic well-being, spirituality, and personal values and individualistic goals are all essential attributes of LP existing within the inner circle but also falling within the HRQOL domains. For example, hope and optimism fall within the self-determination domain, psychosocial well-being falls within the social inclusion domain of HRQOL, physiologic well-being falls within the physical and mental well-being domain of HRQOL, spirituality falls within the interpersonal relations, and goals and values fall within the personal development domain. Going clockwise on the model, the 5 domains of HRQOL most frequently referenced in the literature are self-determination, social inclusion, physical and mental well-being, interpersonal relations, and personal development.[15] Indicators in any of the 5 domains may be used as measures of HRQOL.

This conceptual model may be useful to clinicians and researchers. Clinicians may find the model helpful in evaluating the effect of interventions on HRQOL outcomes, whereas investigators may use the model to conceptualize and define domains of HRQOL and LP relevant for specific research questions. Furthermore, this model may provide a framework for data analysis and interpretation. The model is appropriate for behavioral intervention research addressing patients with HF because it includes multiple domains of HRQOL. The strengths of this conceptual model are the clear and logical conceptual relationships proposed and the clinical applicability. However, the model needs to be further tested in research applications to provide empirical data for the conceptual links and reciprocal relationships. This study helped identify any weaknesses in conceptualization or proposed relationships. The model was refined as empirical data emerged.

PURPOSE

The overall purpose of this exploratory mixed methods study was to examine individual perceptions specified in a HRQOL framework (Fig 1) to explore relationships among LP, HRQOL, and hospital readmissions in older adults with HF. Health-related quality of life portrays the patient's reality (ie, his or her point of view rather than the reality defined by the disease process.[16] The problem addressed was the HF patient's lack of understanding about the diagnosis, treatment, management, and predictors of HF within a framework of the older adult's LP and HRQOL leading to frequent readmissions to the hospital. Although much research exists on quality of life, there is a scarcity of research on the effects of LP and HRQOL among older adults with HF. The study on HF used a holistic framework to contribute to improve healthcare management of older adults with HF, enrich LP and existential meaning in the lives of people struggling with this serious chronic condition, and encourage the possibility of a more optimistic future.

METHOD

The research design was descriptive, correlational mixed method using a QUAL + QUAN concurrent triangulation, with its primary focus being the qualitative portion with a small quantitative piece that added clarity and informed the qualitative findings. The setting for the study was San Antonio, Texas, the seventh largest city in the United States with a population of more than 1.2 million. The sample of 41 participants was used for both qualitative and quantitative phases. Semistructured interviews were analyzed using content analysis. Instruments used for the quantitative phase included the demographic data form, the Purpose-in-Life (PIL) survey, and the MHFQ-R. The key variables explored included (1) number of readmissions, (2) comorbidities, (3) presence of a support system, (4) marital status, (5) sense of LP, and (6) individual perceptions of LP and HRQOL. Descriptive statistics and bivariate correlation analyses were used for analysis of the quantitative data. The integration of the qualitative and quantitative data furnished particulars about the relationship among LP, HRQOL, and hospital readmission.

FINDINGS

Forty-one patients with HF participated in the study. Descriptive statistics of the demographic data are displayed in Table 1. Slightly more than half the participants were male (56%). The mean age of the sample was 75.5 years (SD 9.9, range 60 to 90 years). The majority of the participants were married (65%) with 20% widowed, 10% divorced, and 5% single. The population consisted of whites (76%) and Hispanics (24%). There were no African American/blacks represented in the sample. Approximately 90% of the participants reported having a high school diploma or greater.

There were several comorbidities reported by study participants on the demographic data form. Participants were asked to list any diseases they were being treated for or that their physicians had told them they had. Sixty-three percent reported being diagnosed with hypertension and 37% reported having diabetes mellitus. Depression was self-reported in 32% of the sample, whereas almost 50%

Table 1. Descriptive statistics of demographic data

	Frequency	%
Race		
White	31	75.6
Hispanic	10	24.4
Gender		
Male	23	56.1
Female	18	43.9
Marital status		
Single	2	4.9
Married	23	56.1
Divorced	3	7.3
Widowed	13	31.7
Educational level		
Less than high school	4	9.8
High school diploma	11	26.8
Some college	14	34.1
College graduate	12	29.3
Hospital admissions in the previous year		
None	14	34.1
One time	13	31.7
>1 time	14	34.1
Support person		
Yes	37	90.2
No	4	9.8
Employment status		
Employed	3	7.0
Unemployed	4	10.0
Retired	12	29.0
No response	22	54.0
Income (per mo)		
<$500	1	2.0
$500–$1000	6	15.0
$1001–$2000	5	12.0
$2001–$3000	2	5.0
>$3001	2	5.0
No response	25	61.0

reported having arthritis. In addition, 20% stated that they had cancer and 7% had renal insufficiency. Thirty-four percent specified that they had other diagnoses, including gout, incontinence, Alzheimer's disease, lymphedema, sleep apnea, and bursitis.

Twenty-seven percent of the sample stated that they were diagnosed with HF more than 3 years ago; 7%, 2 to 3 years ago; 10%, 1 to 2 years ago; and only 5% between 6 months and 1 year ago. Participants were asked how many times they had been admitted to the hospital with HF in the past year. Thirty-four percent had no admissions to the hospital. Thirteen participants (32%) had been admitted to the hospital 1 time during the past year, 1 participant (2%) had 2 admissions, 3 (7%) had 3 admissions, and 10 participants (24%) had 4 or more admissions during the past year. Those participants who were admitted to the hospital were also asked the number of times they were admitted to the hospital with HF in the past 6 months. Sixty-five percent had no admissions within the past 6 months, whereas 25% reported 1 admission and 10% reported 2 admissions.

Ninety percent reported having someone in their life on whom they could depend (support person), with 72% identifying the spouse and/or other caregivers, such as adult children or siblings. Almost 80% reported that the caregiver lived in the same home. The majority of participants (60%) lived in households of 2 or more persons. Only 3 persons reported current employment. Average income after taxes was reported by 39%, and 61% chose not to respond. Twenty-seven percent reported an income between $500 and $2000 monthly. Only 1 participant stated a monthly income of less than $500, and 4 participants stated a monthly income greater than $2000. Four participants chose not to answer questions related to their income. Lastly, participants were asked whether they ever forgot to take their medications. Only 5% replied frequently, and 5% replied occasionally. Overall, 80% of the participants rarely forgot to take their medications and 10% stated that they never forgot.

In Table 1, there are missing demographic data as not all participants responded to questions on the demographic data form. As a result of phase 1 refinement, some demographic variables collected during the second data collection phase such as employment status and income were not asked during the first data collection phase.

The primary investigator explored the scores of LP as measured by the PIL survey as a function of participant characteristics. Participant characteristics included age, race, gender, marital status, educational level, monthly income, depression, and support persons. The study also explored the different perceptions of HRQOL using the MHFQ-R and explored bivariate relationships among age, race, gender, marital status, educational level, monthly income, depression, and support persons and the MHFQ-R.

As previously noted, the PIL survey is a 7-point Likert-type scale instrument and the MHFQ-R is a 5-point Likert-type scale questionnaire. Reliability analyses in the current sample revealed Cronbach's α values of 0.908 for the PIL survey and 0.886 for the MHFQ-R. These strong reliability coefficients provide evidence of favorable internal consistency.

According to Crumbaugh and Maholick,[17] scores up to 27 indicate a clear sense of LP, scores from 28 to 50 signify a moderate sense of LP, and scores above 51 are interpreted as lacking a clear sense of LP. Therefore, a low score reflects a clear sense of LP. For example, a clear sense of LP includes satisfaction with goals and values as well as psychosocial and physiologic well-being. A lack of a clear sense of LP includes very little satisfaction with goals and values plus a poor psychosocial and physiologic state.

In the current research, participants appeared to have a moderate sense of LP with a mean score on the PIL survey of 47.68 (SD = 19.314), although there was a wide range of scores among participants. The MHFQ-R scores ranged from 0 to 80 with higher scores indicating more difficulty with participants' management of their HF condition.[18] Participants who have difficulty managing their HF condition may rely heavily on others for help and often have physical limitations that restrict their daily activities. In the current study, participants had a mean MHFQ-R score of 37.05 (SD = 18.937), indicating low to moderate difficulty with their HF symptom management, although there was a wide range of scores among the participants.

The following participant demographics were evaluated in relation to their respective PIL and MHFQ-R scores: race, gender, marital status, and depression. Results from an independent t test revealed that PIL and MHFQ-R scores did not differ as a function of participant race, gender, or marital status. However, the presence of self-reported depression was significantly related to participants' PIL and MHFQ-R scores. Participants who self-reported depression had a significantly poorer sense of LP ($M = 58.38$, SD = 24.62; $t(39) = -2.58$, $P = .014$) than did participants who did not self-report depression ($M = 42.71$, SD = 14.23). Furthermore, participants who self-reported depression also had significantly more difficulty managing their HF symptoms ($M = 45.69$, SD = 20.81; $t(39) = -2.07$, $P = .045$) than did participants who did not self-report depression ($M = 33.04$, SD = 16.91). Results from a 1-way analysis of variance indicated that no differences existed in PIL or MHFQ-R scores as a function of educational status.

An independent t test was performed to determine whether PIL or MHFQ-R scores differed as a function of hospital readmissions. The results indicated that PIL scores did not differ as a function of hospital readmissions. However, participants with no hospital readmissions had significantly lower MHFQ-R scores ($M = 30.14$, SD = 18.79) than did participants with multiple readmissions ($M = 48.93$, SD = 13.32; $t(26) = -3.051$, $P = .005$). Finally, the nonparametric Kruskall-Wallis test was performed to examine whether hospital readmissions differed as a function of participants' educational level. The results indicated that hospital readmissions did not differ by educational level.

Spearman rank correlation coefficient was performed, and examination of the results revealed a significant positive and moderate relationship between HRQOL and the number of hospital readmissions participants reported, rs (41) = 0.389; $P = .012$. However, no relationship was noted between PIL scores and the number of hospital readmissions.

Spearman rank order correlation was performed to determine whether relationships existed between PIL and MHFQ-R scores and the number of hospital readmissions to the participant demographics of age, monthly income, and number of self-reported comorbidities. Examination of the findings did not reveal significant relationships between age and number of comorbidities to PIL or MHFQ-R scores. However, further examination of the Spearman correlation coefficients indicated a significant positive and strong relationship between the number of hospital readmissions and monthly income. Specifically, as monthly income increased, there was a tendency for the number of hospital readmissions to increase, rs (16) = 0.53, $P = .035$. Moreover, as the number of hospital readmissions increased, there was also a tendency for participants to report greater difficulty managing their HF symptoms, rs (41) = 0.39, $P = .012$. The results also revealed a significant positive and strong relationship between PIL scores and MHFQ-R scores, rs (41) = 0.57, $P < .001$. That is, participants with greater PIL scores had a tendency to also report greater MHFQ-R scores.

Qualitative semistructured interviews were conducted with 20 of the participants. The time frame for the interviews averaged approximately 30 to 45 minutes. The recruitment, screening, and selection of participants were achieved through collaboration with clinical nurse specialists at local cardiologists' offices and private HF clinics in a large southwestern city.

On the basis of the interviews, the theme most often identified was psychosocial well-being. This theme was identified 111 times within the 18 interviews. All 18 participants spoke of the importance of their family, friends, and significant others. Many spoke about their grandchildren saying, "They are the ones that keep me going. If I didn't have any grandkids, I don't know what I'd do." Some participants included their pets as part of their family stating, "My wife, my animals and my cats" when asked what makes you feel good about your life.

The second most common theme identified 69 times was physiologic well-being or, more specifically, the lack of physiologic well-being with codes such as illness, sickness, and weakness. Although only 15 of the 18 participants spoke of their physiologic status, many participants complained of "not being able to do stuff I want to 'cause of my illness" and "don't have the physical ability to do the things I used to do."

Hope and optimism were the third most frequent themes, identified 43 times within the interviews and reported by 14 of the 18 participants. Codes under this theme included success and determination. The most significant responses were as follows: "I miss doing it, but if I'm not able to, I'm not going to let it hold me back from enjoying what life I have" and "I just keep going. It hurts and kills me but I just keep going." The participants had very positive outlooks with the exception of 1 participant who spoke of extreme depression. He spoke of his loss of friends and family members as a major source of his depression.

Another important *a priori* theme, spirituality, was seen 32 times during the interviews with codes such as religion and faith. It is interesting to note that 17 of the 18 participants mentioned their religion or faith during the interviews. A sample quotation was as follows: "I've got a religious belief. I'm totally satisfied and couldn't ask for anything more. As long as I've got that, everything is fine." Another participant stated, "When it comes to being sick and dying and stuff, I think it makes you a stronger person and your beliefs get stronger."

The least often seen *a priori* theme was personal values and goals. Only 1 participant mentioned this theme, saying,

> There's a place for everything and everything in its place.... the value of things because of the heart problem, knowing that I'm overdue. They gave me 10 years in 1986. So here again, I'm just going through stuff I don't miss like I thought I would. Trying to replace other ways to really entertain myself and feel that this was important in my life and leave a good legacy.

Several other codes emerged from the interviews that were not identified *a priori*. The most frequently identified code was lifestyle changes. This code was identified 42 times within the interviews by 11 of the 18 participants. Lifestyle changes could be considered a facet of HRQOL and add important knowledge to the understanding of the relationship between LP and HRQOL. Participant quotations included "Can't do nothing no more. Can't put a light bulb in the kitchen" and "Well, the thing that makes me feel bad is the fact that I can't get up and do the things I did before."

Another emerging code was lack of control. Ten of the 18 participants mentioned feeling a lack of control in their lives. Participant quotations included "Not being able to do stuff I want to 'cause of my illness" and "Can't do nothing no more. All I can do is lie in bed." One participant stated, "Yeah, I guess physically, I can't do what I want to do. I mean I still go out and do stuff and then I pay for it for the next 2 or 3 days."

The other emerging codes were occupation/work, hobbies, and finances. Only half of the participants mentioned one of these codes. The quotations included "I stay busy. My son says that if I ever quit work, I'll die. He says you're too used to working" and "My illness, my not being financially stable." As the emerging codes of lifestyle changes and personal control were not identified as *a priori* categories, it may be important to explore these categories in future research related to HRQOL and LP to have a better understanding of the patient with HF.

Overall, the *a priori* themes supported the conceptual orientation of LP, although personal values and goals were mentioned only twice throughout all the interviews. Participants spoke of psychosocial and physiologic well-being frequently during the interviews. Hope/optimism and spirituality were not identified as often as anticipated on the basis of previous LP research. Additional codes that emerged during the interviews might be because of the open-ended nature of the questions asked. The frequency that participants spoke of lifestyle changes and lack of control was an interesting finding that should be explored in future research. This finding is important as the concepts are components of HRQOL but not attributes of LP. These findings suggest a needed revision of the conceptual orientation of HRQOL and LP. Rather than LP being embedded as the inner core of HRQOL, the data suggest that the 2 concepts may overlap.

The qualitative and quantitative data were integrated by carefully examining the qualitative findings in comparison to the quantitative findings. The components of LP as seen in the conceptual orientation were supported by the semistructured qualitative interviews.

During integration of the research findings, the qualitative interviews supported the results on the PIL and MHFQ-R scores. Psychosocial well-being, physiologic well-being, hope/optimism, and spirituality were the 4 most frequently mentioned themes identified during the qualitative interviews. Participants who reported more hospital readmissions also reported fewer positive comments regarding the themes of psychosocial well-being, physiologic well-being, hope/optimism, and spirituality. Participants with a clear sense of LP were more likely to report positive comments regarding the themes of psychosocial well-being, physiologic well-being, hope/optimism, and spirituality. Participants who lacked a clear sense of LP were likely to report fewer comments regarding the frequently mentioned themes of psychosocial well-being, physiologic well-being, hope/optimism, and spirituality.

Participants who reported effective management of HF symptoms as per the MHFQ-R scores also reported positive comments regarding the themes of psychosocial well-being, physiologic well-being, hope/optimism, and spirituality. Participants who reported difficulty with HF symptom management also reported fewer positive comments regarding the themes of psychosocial well-being, physiologic well-being, hope/optimism, and spirituality. Finally, participants with more hospital readmissions were likely to have difficulty with HF symptom management as reflected by the MHFQ-R scores.

The current study contributes to the body of knowledge linking psychosocial issues to hospital readmissions among patients with HF. There was a positive significant and moderate relationship between LP and HRQOL. Study results also indicated a positive, significant, and moderate relationship between HRQOL and hospital readmissions. Although there was no significant difference quantitatively between LP as measured by the PIL survey and hospital readmissions, the qualitative data supported the relationship. Furthermore, the qualitative interviews supported the relationship among LP, HRQOL, and support persons. However, further research that addresses these phenomena would be needed to draw a more definitive conclusion. The current research findings suggest a need for revision of the conceptual orientation of HRQOL and LP. In closing, the information elicited from the current study may provide nurses a better understanding of HF in older adults and perceptions of LP, HRQOL, and hospital readmissions as they relate to personal characteristics.

LIMITATIONS

There may be difficulty with this time-intensive method while interpreting the results because the clinical significance is difficult to determine because of the qualitative or mixed method nature.[19] Furthermore, the small sample in this pilot study could diminish the statistical power. However, the researcher equally valued practical significance and statistical significance. Limitations related to the qualitative phase included researcher prejudice and bias, observer effects, and replication because the Principal Investigator was a key part of data collection, analysis, and interpretation. However, the Principal Investigator adhered to qualitative data collection techniques such as prolonged engagement, peer debriefing, and referential adequacy to ensure credibility of findings. Moreover, qualitative data analysis of open-ended questions was time-consuming.

IMPLICATIONS FOR NURSING

The integration of qualitative and quantitative data provided information about the perception of LP in older adults with HF using a concurrent mixed model approach. Integration is needed to capture the depth and breadth of this problem. Creswell et al stated, "The underlying logic of mixing is that neither quantitative nor qualitative methods are sufficient in themselves to capture the trends and details of the situation."[20(p7)]

This study is significant to nursing because knowledge elicited furnishes nurses with a better understanding of older adults with HF. Awareness attained from this study helps equip nurses with a broader cognizance of patients with HF and their perceptions of LP and HRQOL. The patient's perspective can be incorporated in HF program planning and evaluation efforts. Ultimately, the insights obtained and knowledge generated may provide a foundation for future development of safe and effective holistic interventions to decrease the number of costly hospital readmissions for patients with HF.

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