

Family Caregiving in Heart Failure

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Abstract

Background: Little is known about the experiences of family caregivers of heart failure patients, despite the fact that these patients have disabling symptoms and diminished functioning that could lead to caregiver stress and poor health.

Objectives: Based on a caregiver model, the objectives were to 1) examine relationships among age, control over managing heart problems, task difficulty, negative caregiver outcomes, and perceived mental and general health among heart failure caregivers; 2) describe which tasks and outcomes were perceived as being most difficult and negative by caregivers; and 3) describe caregivers' perceptions of control over managing heart failure.

Methods: A sample of 21 family caregivers of heart failure patients completed study questionnaires. Most were women (n=20), spouses (n=20), and white (n=18) with a mean age of 59.6 years. The heart failure patients were mostly male veterans in NYHA class II, III, or IV. Descriptive statistics and Spearman's rho correlations using an alpha of $p \leq .05$ were used.

Results: Younger caregivers reported more task difficulty and poorer mental health than older caregivers. Greater task difficulty was associated with negative caregiver outcomes and poorer mental health. Negative caregiver outcomes were strongly associated with poorer mental health, and the latter was moderately correlated with poorer general health. Caregivers' perceived control over managing heart failure was moderately related to poorer mental health, with 43% of caregivers feeling they were not in control of their family member's heart problems. Performing household tasks and managing patient behaviors were most difficult, while caregiver emotional and financial well-being, time for social activities, and general health perceptions deteriorated.

Conclusions: These preliminary results support the model. Future studies are needed in larger samples to evaluate predictors of negative outcomes to identify priority areas for interventions.

Family Caregiving in Heart Failure

Family caregiving is vital to the health and well-being of people in the United States. There are an estimated 44.4 million family caregivers of chronically ill persons in the country (National Alliance for Caregiving, 2004). Without these caregivers, the health care system would be unable to meet the needs of these individuals. The economic cost of caring for family members with chronic illnesses is high, with national estimates at 257 billion dollars annually (Amo, 2002).

Although family caregiving is essential to the health of the country, being a caregiver has been associated with negative outcomes. In a landmark study, Schulz and Beach (1999) found that 392 spousal caregivers who were experiencing strain had a 63% higher 4-year mortality rate than 427 age- and gender-matched persons who were not caregivers. Interestingly, caregivers who were not strained did not exhibit increased mortality compared with controls, suggesting the importance of caregiver strain as an area for intervention (Schulz & Beach, 1999). Other investigators have found that caregivers of persons with stroke or Alzheimer disease report relatively higher levels of emotional distress and social inactivity (Bakas & Burgener, 2002; Bakas, Austin, Jessup, Williams, & Oberst, 2004; Clark & King, 2003; Karlawish, Casarett, Klocinski, & Clark, 2001). It is likely that caregivers of heart failure patients experience similar poor outcomes. In spite of the growing prevalence of heart failure and the likelihood of negative outcomes for the caregivers, the research on family caregiving in heart failure is less well established.

Heart failure is a debilitating chronic disorder associated with high mortality rates, frequent hospitalizations, and poor quality of life (American Heart Association, 2005). It is the only major cardiovascular condition that continues to increase, with five million persons in the

United States currently diagnosed and 550,000 new cases reported annually (American Heart Association, 2005). The incidence of heart failure doubles each decade after age 40, affecting 10% of the population by the age of 75 years and 15% to 20% after age 80 (Cowie et al., 1997; Premen, 1996). Rich (1997) predicts that the prevalence of heart failure will reach 10 million cases in the United States alone by the year 2007.

The treatment of heart failure requires a complex medication and dietary regimen to reduce mortality and unnecessary hospitalizations and manage the troublesome symptoms of dyspnea, fatigue, depression, anxiety, and cognitive deficits (Adams et al., 1999; Bennett & Sauve, 2003; Freedland, Rich, Skala, Carney, Davila-Roman, & Jaffe, 2003; Moser & Stevenson, 2001; Riegel et al., 2000). Recent advances have led to many new technologies for the treatment of heart failure, including implantable defibrillators, biventricular pacemakers, and left-ventricular-assist devices (Adams et al., 1999). For these reasons, self care is often demanding and involves complex decision making that is likely to require the assistance of family members. Little is known about caregiving in the context of heart failure, despite a number of studies conducted in the area. A literature search of MEDLINE, CINAHL, and PsycINFO (dates 1990-10/01/04; keywords caregivers, caregiving, heart failure-congestive, heart failure, heart transplantation, heart transplant, and cardiac transplant) yielded 79 relevant records. After reviewing the records independently, 2 of the investigators (JAN, SJP) concluded that caregivers of heart failure patients do report increased stress and problems with physical and emotional health. Overall, the studies were limited by lack of guiding frameworks and inconsistent measures. Therefore, the purpose of this study was to describe caregiving in the context of heart failure using a model derived from prior research in stroke caregiving and valid, reliable measures.

Conceptual Model

A well-tested conceptual model is needed to guide research in heart failure caregiving in order to determine the most important areas for intervention development. The conceptual model (Figure 1) for this study was based on prior research with stroke caregivers (Bakas & Burgener, 2002). Using this model as a guide, the aims of this descriptive study were to 1) examine relationships among caregiver age, perceived control over heart problems, task difficulty, caregiver outcomes, and perceived mental and general health among heart failure caregivers; 2) describe which tasks and outcomes were perceived as being most difficult and negative by caregivers; and 3) describe caregivers' perceptions of control over managing heart failure.

Methods

Sample

Twenty-one caregivers, defined as family members providing unpaid care for veterans diagnosed with heart failure, were enrolled in this study. The sample consisted of 20 (95%) women and one man (5%); 18 (86%) self-identified their race as white and three (14%) as African American. Mean age was 59.6 years (SD 9.1; range 45 to 76) and mean number of years of education was 13 (SD 1.9; range 9 to 18). Three (14%) of the caregivers were employed full-time, two (10%) were employed part-time, and 16 (76%) were unemployed, retired, or homemakers. When asked if they had sufficient income, eight (38%) of the caregivers reported they were comfortable, seven (33%) said they had "just enough to make ends meet," five (24%) reported they did "not have enough to make ends meet," and one did not respond to this question. Twenty (95%) of the caregivers were spouses of the patients with heart failure and one was a sister. All of the caregivers lived with the patient for whom they provided care. Five (24%) caregivers reported that they had quit work in order to provide care. The caregivers reported

having the following chronic illnesses: arthritis (n = 11, 52%), hypertension (n = 10, 48%), headaches (n = 7, 33%), diabetes mellitus (n = 4, 19%), pain (n = 4, 19%), heart disease (n = 3, 14%), cancer (n = 2, 10%), stroke (n = 2, 10%), asthma (n = 1, 5%), and myocardial infarction (n = 1, 5%).

The patients with heart failure who were receiving care were primarily men (n = 20, 95%) and white (n = 18, 86%), with a mean age of 62.7 years (range 44 to 81). One patient (5%) had an education of less than 12 years, ten (48%) were high school graduates, and ten (48%) had completed college or technical school. The New York Heart Association (NYHA) class of the patients was as follows: II, n = 8 (38%); III, n = 10 (48%); and IV, n = 3 (14%). The NYHA class, which ranges from I to IV, is a measure of functional status, with class I patients being asymptomatic and class IV patients being symptomatic at rest (New York Heart Association Criteria Committee, 1964).

Procedure

A non-experimental descriptive design was used to achieve the purposes of the study. The human subjects committee at the institutions approved the study. The family caregivers were identified by patients with heart failure who were enrolled in a larger randomized clinical trial to evaluate the effects of a computerized intervention to reduce hospitalization and improve quality of life. The study patients were recruited from primary care medicine outpatient clinics affiliated with a Veterans Affairs Medical Center in the southern United States. Patients were asked, "Who helps you the most at home?" to identify family caregivers. Caregivers were then invited to participate in the study. The questionnaires were completed by the caregivers or were read to them by one of two research assistants, based upon the caregivers' preferences.

Instruments

The difficulty subscale of the Oberst Caregiving Burden Scale (OCBS), a 15-item questionnaire, was used to measure caregiver perceptions of tasks that they performed in caring for their family member (Bakas et al., 2004; Carey, Oberst, McCubbin, & Hughes, 1991), including providing personal care, assisting with medications, monitoring symptoms, managing the patient's emotions and behaviors, dealing with finances, talking with health professionals, and others. For this study, the item regarding behaviors was revised from one to three items (moodiness and irritability; loss of memory, concentration, and attention; and confusion, disorientation, or dementia) in order to determine which types of behaviors were most difficult for caregivers to manage. The difficulty items were rated on response scales ranging from 1 = "Not Difficult" to 5 = "Extremely Difficult." Internal consistency reliability, unidimensionality, and content and construct validity of the 15-item subscale have been documented in both cancer and stroke caregivers (Bakas et al., 2004; Bakas & Burgener, 2002; Bakas & Champion, 1999; Carey et al., 1991; Oberst, 1990). Cronbach's alpha was 0.92 in this sample using the 17-item version of the difficulty subscale.

The caregiver's perceived control over the patient's heart problems was measured by the Control Attitude Survey (CAS), a 4-item scale with 7-point response scales (1 = "Not at all in control" to 7 = "Very much in control"); higher scores indicate greater levels of perceived control (Moser & Dracup, 1995; 2000). The items address how much control or how helpless individuals feel about their own or a family member's heart problems. The survey has documented reliability and validity in persons with cardiovascular disorders (Moser & Dracup, 1995, 2000). Baseline perceived control was predictive of 6-month mortality in a previous study

of patients who were post-myocardial infarction (Moser & Dracup, 1995). In the present sample, the Cronbach's alpha coefficient was 0.75.

Negative caregiver outcomes were measured using the 15-item Bakas Caregiving Outcomes Scale (BCOS), which had been previously developed and tested in family caregivers of stroke survivors (Bakas & Champion, 1999; Bakas, Farran, & Williams, 2005). The BCOS measures caregiver perceptions of how their life has changed since providing care for their family member. Changes in social functioning, subjective well-being, and physical health are measured on a scale ranging from 1 = "Changed for the worst" to 7 = "Changed for the best." Evidence of internal consistency reliability and of content, construct, and criterion-related validity has been reported (Bakas & Champion, 1999; Bakas et al., 2005). Cronbach's alpha for the present sample was 0.88.

Two subscales of the Medical Outcomes Study General Health Survey Short Form (SF-36) were administered to measure caregivers' perceptions of their general and mental health (Medical Outcomes Trust, 1994; McHorney, Ware, Lu, & Sherbourne, 1994). Both the general health perceptions and mental health subscales have been widely used in large outpatient samples (McHorney et al., 1994), as well as in stroke caregivers (Bakas & Burgener, 2002; Bakas & Champion, 1999), with evidence of acceptable reliability and validity. The general health and mental health subscales each consist of five items that are recoded and transformed to range from 0 to 100, with 100 representing the best possible health. Cronbach's alphas for the present sample were 0.86 for general health and .93 for mental health.

Statistical analysis

Data were entered and screened for errors using double entry and procedures recommended by Tabachnick and Fidell (1996). Descriptive statistics were computed to describe

caregiver and patient characteristics, as well as the measures. Internal consistency reliability was estimated using Cronbach's alpha for all multi-item scales. Spearman's rho was used to achieve aim one and examine relationships among the variables; an alpha of $p \leq .05$ was considered significant. Descriptive statistics were then computed to accomplish aims two and three and determine which tasks were perceived as being most difficult, which outcomes were perceived as being most negative, and what percentage of caregivers perceived a lack of control over managing the patient's heart problems.

Results

Descriptives (means, standard deviations, and ranges) for the study variables are presented in Table 1. Caregiving tasks on the whole were perceived as only slightly difficult based on the overall average OCBS score; however, the wide range of scores indicates that several of the caregivers did experience a moderate degree of difficulty. Caregivers' perceptions of control over managing the patients' heart problems averaged a bit higher than the natural midpoint of the scale, indicating that on average caregivers perceived moderate control. The average BCOS score was lower than the natural midpoint of the total scale, indicating that caregivers generally perceived their lives to have changed for the worse as a result of providing care. Caregivers' general health perceptions averaged close to 60, which indicated worse health than what has been reported for stroke caregivers (67.3) (Bakas & Burgener, 2002). Again, there was a wide range in caregivers' perceptions of their general health, with some reporting scores as low as 10 out of a possible 100. Caregivers' average perceptions of their mental health were fairly high (71.8), but the wide range of scores indicates that some caregivers perceived their mental health to be poor, some as low as a score of 20 out of a possible 100.

The analysis for aim one is displayed in Table 2. Younger caregivers perceived their tasks to be more difficult and their mental health to be worse than older caregivers. Less perceived control over heart failure was associated with poorer mental health perceptions. More perceived difficulty with caregiving tasks was associated with more negative caregiving outcomes and poorer mental health perceptions. Negative caregiver outcomes were strongly correlated with poorer mental health perceptions. Poorer perceived mental health was associated with poorer perceived general health among caregivers. Other relationships among the variables did not reach significance.

Results for aim two are presented in Tables 3 and 4. Each of the tasks from the OCBS along with item means, ranges, and the percent of caregivers who rated these items as moderately, very, or extremely difficult are presented in Table 3. Almost half of the caregivers (48%) rated household tasks as being moderately, very, or extremely difficult. Approximately one third of the caregivers rated managing behavior problems related to moodiness and irritability as being moderately, very, or extremely difficult. More than one fourth rated tasks regarding finances and transportation as being moderately, very, or extremely difficult. Furthermore, although group means may have been low, substantial proportions of caregivers rated other tasks as being moderately, very, or extremely difficult.

Many caregivers reported that their lives had changed for the worse as a result of providing care (Table 4). More than half of the caregivers (57%) rated their emotional well-being as changing for the worse as a result of providing care. In relation to each of the variables of future outlook, level of energy, time for social activities, and financial well-being, almost half (48%) reported change for the worse, and for physical health and general health one third reported change for the worse. Forty-three percent of the caregivers reported diminished ability

to cope with stress resulting from their caregiver role. These findings reflect a more detailed analysis of specific areas of caregivers' lives that had worsened as a result of providing care than a total BCOS score.

Although caregivers' perceptions of control over the patients' heart problems were not significantly related to perceptions of task difficulty and negative caregiver outcomes in this study, perceptions of control were moderately related to perceptions of poorer mental health. Inspection of the Control Attitude Scale item means and proportions reveals some important findings (see Table 5). A lack of control over their family member's heart problems was reported by 43% of the caregivers. One third indicated that they, as well as the patients, felt helpless regarding the heart problems. Although a much smaller proportion, two caregivers were unsure of whether or not they could take the right steps if their family member were to have an emergency related to his or her heart.

Discussion

The results of this study are important because caregiving outcomes in heart failure were examined in relation to age, perceived caregiver task difficulty, and perceived caregiver control over managing heart failure. The study was guided by a conceptual model tested among caregivers of other chronically ill populations, and variables were measured with valid, reliable instruments.

Relationships among the study variables indicated that greater perceived task difficulty was significantly associated with younger age of caregivers. This result is consistent with some previous studies, including Dracup and colleagues' (Dracup, Evangelista, Doering, Tullman, Moser, & Hamilton, 2004) study of 69 spouses of heart failure patients. This finding needs further study, particularly since caregiver strain, including task difficulty, has been linked to

mortality (Schulz & Beach, 1999). Since Schulz and Beach (1999) controlled for age in determining mortality rates in elderly spousal caregivers of persons with Alzheimer disease, the possibility that younger caregivers may experience even higher strain, and thus higher morbidity and mortality, has yet to be explored.

Overall, self-perceived mental health was high, although some caregivers scored in the lowest quartile of the scale. General health perceptions were lower than the mental health scores, and some caregivers scored at the lowest possible value. Some particularly important findings of the current study were that poorer mental health was significantly associated with younger age, poorer perceptions of control, greater task difficulty, and poorer caregiver outcomes, with the correlations being fairly high. However, these results need validation in a larger sample. A review of the individual scale items conducted to evaluate the items for overlap did not indicate that the instruments were measuring the same constructs.

Determining which caregiver tasks are perceived as being most difficult is important to determine priority areas for intervention because caregiver perceived difficulty with tasks was significantly correlated with negative caregiver outcomes and poorer mental health perceptions. The tasks found to be most difficult in this sample included performance of household tasks such as cleaning; management of the patient's moodiness and irritability; management of finances, bills, and forms related to the patient's illness; and provision of transportation and company for the patient. In a similar study using the OCBS, spousal caregivers of coronary artery bypass grafting surgery patients reported taking over household tasks, providing emotional support, and monitoring patients' conditions as being the most burdensome (Stolarik, Lindsay, Sharrard, & Woodend, 2000). Similar tasks, also related to negative mood and negative caregiver outcomes, have been found to be difficult among caregivers of stroke survivors (Bakas et al., 2004). These

findings demonstrate that, although total OCBS scores may indicate overall perceptions of low task difficulty, inspection of individual OCBS items may show that significant proportions of caregivers experience tasks as moderately, very, or extremely difficult. This level of detail in the findings is needed to identify potential areas for individualized caregiver interventions.

The association between increased perceived control and better mental health is consistent with the studies of perceived control among caregivers and caregiving outcomes described in the literature. Moser and Dracup (2000) examined differences in emotional distress among spouses of patients recovering from an acute cardiac event based on level of perceived control. Spouses perceiving high levels of control were found to display lower levels of anxiety, depressive symptoms, and hostility than spouses with low levels of perceived control. In a study of 69 spouses of patients with heart failure, higher levels of perceived control were significantly associated with better emotional well-being (Dracup et al., 2004). Studies of caregivers in different populations have shown similar relationships between perceived control and caregiver outcomes. Among elderly caregivers, level of perceived control was directly related to life satisfaction and depression and indirectly related to symptoms of stress (Wallhagen, 1992-93). Although perceived control was not significantly related to perceived task difficulty or caregiver outcomes in the current study, the fact that 43% of caregivers perceived a lack of control in relation to their family member's heart problems in our study of concern. Despite recent technological and medical advances, heart failure management remains complex with uncertain outcomes. Adherence to a complex regimen or the unpredictability of the course of the disease likely contributes to feelings of lack of control among caregivers of heart failure patients, and the challenge for caregivers is to help these persons cope with this uncertainty.

Determining which areas of caregiver lives had deteriorated is important since negative caregiver outcomes were strongly associated with poorer mental health perceptions. The most negative caregiving outcomes were diminished financial well-being, poor physical health, and deteriorating future outlook. In addition, many caregivers felt that their level of energy, emotional well-being, and time for social activities had changed for the worse since providing care for the family member with heart failure. These findings underscore the negative influences that providing care has on family caregivers of patients with heart failure. Analysis of the BCOS at the item level may help to identify priority areas for intervention for these caregivers in future studies.

Limitations

The small convenience sample consisting of 21 family caregivers of veterans with heart failure does not allow generalizing the findings to other more diverse populations. The sample was also made up of predominately female, white spousal caregivers who were unemployed, retired, or homemakers. In addition, the cross-sectional nature of the study does not permit inferences regarding causality. Despite these limitations, this preliminary study found moderate to high correlations among variables in the conceptual model. Further verification of the conceptual model is needed.

Conclusion

Results from this small descriptive study indicated that poorer self-reported mental health was significantly associated with younger age, perceptions of less control, perceptions of greater task difficulty, perceptions of poorer general health, and other negative caregiver outcomes. Tasks perceived as being most difficult for caregivers, as well as aspects of caregiver lives that had deteriorated as a result of providing care were identified. The conceptual model was useful

in selecting variables important to family caregivers. In the future, prospective studies are needed with larger, more diverse samples of caregivers of persons with heart failure to verify these results, determine predictors of mental health and caregiving outcomes, and design and test interventions to improve outcomes.

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Table 1. Descriptive statistics for measures.

Measure	#Items	N	Mean (SD)	(Possible) Actual Range	Cronbach Alpha
Caregiver Task				(17-85)	
Difficulty (OCBS)*	17	21	27.3 (10.7)	17-54	.92
Caregiver Perceived				(4-28)	
Control	4	21	17.5 (5.6)	7-28	.75
Caregiver Outcomes				(15-105)	
(BCOS)	15	21	54.9 (12.5)	23-79	.88
SF-36 Mental Health				(0-100)	
Subscale	5	21	71.8 (22.6)	20-100	.93
SF-36 General				(0-100)	
Health Subscale	5	21	59.5 (25.7)	10-97	.86

* Original OCBS behavior item was a single item. For this study, the item was split into 3 separate items.

Table 2. Spearman Rho Correlation Matrix (N=21).

	Caregiver Age	Perceived Control	Task Difficulty	Caregiver Outcomes	Mental Health	General Health
Caregiver Age						
Perceived Control	-.07					
Task Difficulty	-.60**	-.25				
Caregiver Outcomes	.34	.21	-.46*			
Mental Health	.43*	.44*	-.51*	.66***		
General Health	.13	-.12	-.14	.15	.44*	

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 3. Oberst Caregiving Burden Scale item means and percentages of subjects perceiving difficulty with caregiving tasks (item scores > 2) (N = 21).

Caregiving Tasks	Mean (SD)	Range*	n (%) rating item as moderately, very, or extremely difficult
1. Treatments (Meds, etc.)	1.4 (0.9)	1-4	3 (14.3%)
2. Personal care (ADLs)	1.2 (0.7)	1-4	1 (4.8%)
3. Mobility (walking, exercise)	1.4 (0.9)	1-4	3 (14.3%)
4. Emotional support	1.8 (1.3)	1-5	4 (19.0%)
5. Monitoring symptoms	1.8 (1.0)	1-4	5 (23.8%)
6. Transportation	1.9 (0.9)⁴	1-3	6 (28.6%)
7. Finances	2.0 (0.9)³	1-4	6 (28.6%)
8. Household tasks (Cleaning)	2.2 (1.3)¹	1-5	10 (47.6%)
9. Errands (Shopping, etc.)	1.7 (0.9)	1-4	4 (19.0%)
10. Planning activities	1.8 (1.3)	1-5	4 (19.0%)
11. Behavior problems** (moodiness and irritability)	2.1 (1.3)²	1-5	7 (33.3%)
12. Behavior problems** (memory loss, concentration, and attention)	1.7 (1.1)	1-4	5 (23.8%)
13. Behavior problems** (confusion, disorientation, or dementia)	1.4 (0.7)	1-3	3 (14.3%)

14. Elder care while away	1.1 (0.4)	1-3	1 (4.8%)
15. Communicating with patient	1.0 (0.1)	1-2	0 (0%)
16. Finding resources	1.3 (0.6)	1-3	2 (9.5%)
17. Communicating with health care professionals	1.3 (0.6)	1-3	1 (4.8%)

* Possible range = 1-5

** Original behavior item was a single item. For this study, the item was split into 3 separate items.

¹ Most difficult task

² Second most difficult task

³ Third most difficult task

⁴ Fourth most difficult task

Table 4. Bakas Caregiving Outcomes Scale (BCOS) item means and percentages of changes for the worse (item scores < 4) (N = 21).

Caregiver Outcomes (BCOS items)	Mean (SD)	Range* of scores	n(%) changed for the worse.
1. My self-esteem	4.1 (1.2)	1-7	3 (14.3%)
2. My physical health	3.3 (1.1)²	1-4	7 (33.3%)
3. My time for family activities	3.5 (1.0)	1-5	6 (28.6%)
4. My ability to cope with stress	3.5 (1.5)	1-6	9 (42.8%)
5. My relationship with friends	3.8 (1.2)	1-7	5 (23.8%)
6. My future outlook	3.4 (1.4)³	1-7	10 (47.6%)
7. My level of energy	3.4 (1.6)⁴	1-7	10 (47.6%)
8. My emotional well-being	3.4 (1.8)⁴	1-7	12 (57.1%)
9. My roles in life	3.7 (1.5)	1-7	9 (42.8%)
10. My time for social activities	3.4 (1.3)⁴	1-7	10 (47.6%)
11. My relationship with family	4.4 (1.2)	3-7	3 (14.3%)
12. My financial well-being	3.1 (1.3)¹	1-6	10 (47.6%)
13. My relationship with patient	4.7 (1.7)	1-7	3 (14.3%)
14. My physical functioning	3.7 (1.1)	2-7	8 (38.1%)
15. My general health	3.4 (1.1)³	1-5	7 (33.3%)

* Possible range = 1-7

¹ Most negative change

² Second most negative change

³ Third most negative changes

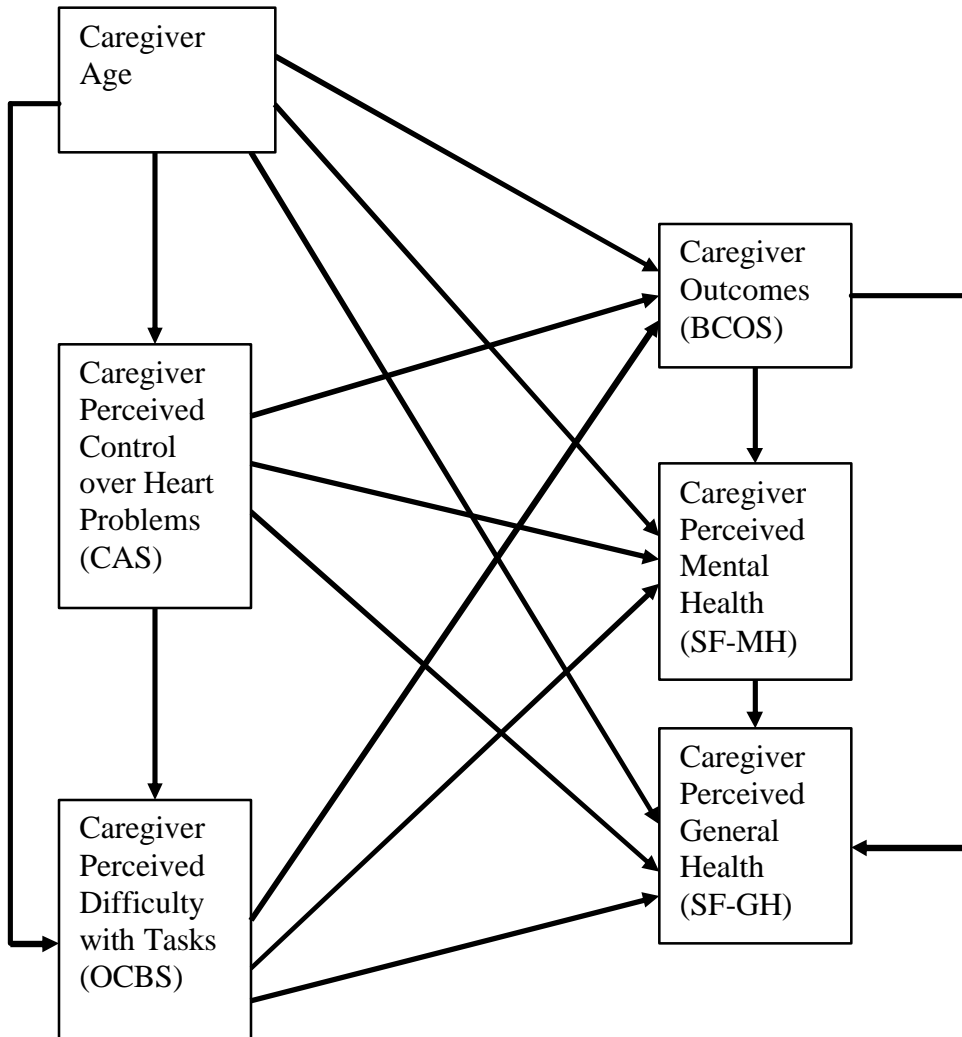
⁴ Fourth most negative changes

Table 5. Control Attitudes Survey item means and percentages of lack of control (item scores < 4) (N = 21).

Perceived caregiver control (CAS items)	Mean (SD)	Range*	n (%) rating as not in control.
1. Regarding your family member's heart problems, how much control do you feel?	3.7 (1.9)	1-7	9 (42.9%)
2. Do you feel that you could take the right steps if your family member were to have an emergency related to his/her heart?	5.8 (1.5)	2-7	2 (9.5%)
3. Regarding your family member's heart problems, how helpless do you feel?	4.0 (1.9)	1-7	7 (33.3%)
4. Regarding your family member's heart problems, how helpless do you think your family member feels?	4.0 (2.1)	1-7	7 (33.3%)

* Possible range 1-7

Figure 1. Caregiver Model.



Instruments:
 CAS = Control Attitudes Survey
 OCBS = Oberst Caregiving Burden Scale
 BCOS = Bakas Caregiving Outcomes Scale
 SF-MH = SF-36 Mental Health Subscale
 SF-GH = SF-36 General Health Subscale