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The Impact of Family Functioning on Caregiver Burden among Caregivers of Veterans with Congestive Heart Failure

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A cross-sectional study of 76 family caregivers of older veterans with congestive heart failure utilized the McMaster model of family functioning to examine the impact of family functioning variables (problem solving, communication, roles, affective responsiveness, and affective involvement) on caregiver burden dimensions (relationship burden, objective burden, stress burden, and uplifts). Regression analyses indicated that the five dimensions of family functioning were significantly related ($p < 0.01$) to relationship burden ($R^2 = .27$) and uplifts ($R^2 = .29$). More specifically, increased relationship burden was associated with problems in family roles, and increased uplifts was related to higher levels of affective responsiveness.

KEYWORDS *caregiver burden, caregiving, family functioning*

As Americans age and are forced to cope with chronic illnesses, they become increasingly dependent on their families for assistance with a myriad of tasks, including instrumental and basic activities of daily living (Association of American Retired Persons [AARP], 2001; National Alliance for Caregiving [NAC], 2005). Family members are deeply affected by their caregiving

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responsibilities, and many report high levels of burden (NAC, 2005). From a family systems perspective, the older adult with medical challenges and the qualities and functioning of the family as a system are interrelated. The older adult and the family system cannot be fully understood as separate entities; transactional patterns among the subsystems are important in understanding individual behavior and coping capacities (Epstein, Ryan, Bishop, Miller, & Keitner, 2003; Ryan, Epstein, Keitner, Miller, & Bishop, 2005). From this theoretical perspective, family system functioning can influence the experiences of family caregivers, including their feelings of burden and fulfillment related to their caregiving responsibilities. The current study seeks to examine how family systems variables are related to various dimensions of caregiver burden among a sample of family caregivers of older veterans with congestive heart failure.

Family Systems Theory

In this research, the McMaster model of family functioning (MMFF) was utilized as the organizing theoretical framework due to its applicability to a wide variety of family issues and settings and its clinical relevance. The assumptions of the McMaster approach include basic systems theory tenets:

- (1) all parts of the family are interrelated;
- (2) one part of the family cannot be understood in isolation from the rest of the system;
- (3) family functioning cannot be fully understood by simply understanding each of the parts;
- (4) a family's structure and organization are important factors in determining the behavior of family members;
- (5) transactional patterns of the family system are among the most important variables that shape the behavior of family members (Ryan et al., 2005, p. 25)

The MMFF identifies six dimensions for family assessment that provide opportunities for intervention: problem solving, communication, roles, affective responsiveness, affective involvement, and behavior control. Functioning within each of these dimensions is conceptualized along a continuum from *most ineffective* to *most effective*. Furthermore, most effective functioning in all dimensions "supports optimal physical and emotional health, [while most ineffective functioning in any of the dimensions] can contribute to clinical presentation" (Ryan et al., 2005, p. 24).

Problem solving is conceptualized as the family's ability to successfully address concerns that threaten the family's functioning and integrity. Communication is the exchange of information within a family. The model examines the directness and clarity of communication in both instrumental (i.e., goal oriented) and affective (i.e., emotional) areas. Roles are defined as the recurring patterns of behavior that family members perform to fulfill instrumental and affective family tasks. The model considers role allocation

and accountability. Affective responsiveness involves the family's ability to appropriately respond to stimuli and express a full range of emotion; the model distinguishes between two types of affect: welfare and emergency emotions. Affective involvement is the "degree to which the family as a whole shows interest in and values the activities and interests of individual family members" (Epstein, Baldwin, & Bishop, 1983, p. 172). Finally, behavior control refers to family patterns for coping with situations that involve physical danger, meeting and expressing psychobiological needs (e.g., eating, drinking), and socializing. These family functioning domains are amenable to clinical intervention and can be assessed by the Family Assessment Device (FAD; Epstein et al., 1983). The FAD identifies ineffective or unhealthy family functioning in each domain such that targeted interventions can be implemented.

Family Functioning, Chronic Illness, and Caregiver Burden

To date, family functioning using the MMFF has been explored in studies of older adults with a variety of chronic illnesses. For example, Evans, Bishop, and Halar (1987) found that the FAD subscales of problem solving, communication, affective involvement, and general family functioning were significantly correlated with medical treatment compliance ratings. Furthermore, Evans, Bishop, and Haselkorn (1991) prospectively examined satisfaction with home care among 135 caregivers of stroke patients and found that poor family functioning was a predictor of a less-than-optimal home care experience. Spitznagel, Tremont, Davis, and Foster (2006) found that caregivers' desire to institutionalize their family member with dementia was related to high levels of caregiver burden and unhealthy family functioning. This finding is corroborated by Tremont, Davis, and Bishop (2006) and Heru, Ryan, and Iqbal (2004) who also found that poorer family functioning was associated with higher rates of caregiver burden.

Focus of Current Study

The current study seeks to fill some gaps in the knowledge base that addresses the relationship between family functioning and caregiver burden through utilization of a multidimensional measure of caregiver burden with a sample of caregivers of older veterans with congestive heart failure. The previously discussed studies that explored caregiver burden and family functioning employed unidimensional measures of caregiver burden (e.g., Zarit Burden Interview, Caregiver Strain Index, and visual analogue scales). Furthermore, no studies could be identified that addressed family functioning and caregiver burden in the context of caring for a family member with congestive heart failure. Thus, the current study examines the question: How do family functioning variables affect various dimensions of caregiver burden and fulfillment?

METHOD

Sample Recruitment

Family caregivers were recruited from a northeastern U.S. Veterans Affairs (VA). A list of veterans who had received care at the VA in the past 6 months and met the following inclusion criteria was generated: age 55 or older, a diagnosis of congestive heart failure listed as an active problem, and next of kin listed in the medical record ($N = 788$). The list was verified for the presence of the inclusion criteria against the electronic medical record. This resulted in a pool of 322 for whom the inclusion criteria could be verified. These individuals were mailed a letter describing the study and subsequently were called for a screening interview. Two-hundred sixty-seven veterans (83% of the original list) were successfully reached by telephone. During the brief screening interview, it was determined if the veteran had a family caregiver that provided at least 10 hours of care per week who was a close friend or family member and if the veteran would grant permission to contact the caregiver. This resulted in a list of 230 caregivers, and of these individuals, 104 refused participation, 26 changed their mind after receiving the interview packet, and 3 had a change in health status after initially agreeing to participate. The final sample size was 76 caregivers (33% of all caregivers who met all screening criteria and were successfully reached by telephone).

Measures

DEMOGRAPHICS

Demographic data included age, gender, ethnicity, educational level, and living arrangement of caregiver and veteran. Because this was part of a larger study that also included data collection from the veteran care recipient, the veteran's self-perceived health status (excellent, good, fair, poor, very poor) was also included in the analysis.

FAMILY FUNCTIONING

Family functioning was measured using the FAD, a 60-item survey that measures the six dimensions of family functioning described earlier (problem solving, communication, roles, affective responsiveness, affective involvement, and behavioral control) plus a seventh subscale of general functioning. Possible scale scores range from 1.0 (*healthy*) to 4.0 (*unhealthy*). Cronbach's alphas for the subscales range from .72 to .92 (Epstein et al., 1983). The instrument correlates in the expected direction with measures of dyadic adjustment, marital satisfaction, and other family functioning scales (Miller, Epstein, Bishop & Keitner, 1985). In pilot tests of the instrument with family members caring for an older adult, it was determined that some of the

questions that are part of the behavioral control subscale were not applicable to older families and resulted in large amounts of missing data; therefore, this subscale was dropped from the final data collection tool.

CAREGIVER BURDEN

Caregiver was measured using the revised Montgomery-Borgatta Caregiver Burden Scale (R. Montgomery, personal communication, 1/3/2007), a 22-item scale designed to measure four dimensions of the caregiving experience including three scales addressing burden and a fourth measure of fulfillment in caregiving duties: relationship burden (extent to which the caregiver perceives patient requests as unreasonable), stress burden (affective component of caregiver burden), objective burden (extent to which demands of caregiving infringe on the caregiver's time for self and others), and uplifts (degree to which caregiver feels fulfilled and rewarded by caregiving tasks). In a study of 379 family caregivers from the League of Experienced Family Caregivers Project, Cronbach's alphas for the four subscales ranged from 0.90 to 0.93 (R. Montgomery, personal communication, 1/3/2007).

Data Collection Procedures

Once caregivers agreed to participate in the study, a telephone interview time was scheduled; they were mailed the questionnaire and study information sheet to review prior to the interview. Interviews lasted between 20 and 45 minutes and were conducted by trained research assistants. Participants were mailed a \$20 gift card to thank them for their participation in the study. The research was approved by the VA hospital's Institutional Review Board.

Analysis

Descriptive statistics were run on all study variables. Hierarchical multiple regression was utilized to examine the impact of the five family functioning subscales on the three caregiver burden and uplift measures. Previously determined cutoff scores were utilized to determine the proportion of caregivers who rated their family functioning as healthy versus unhealthy on the five subscales. According to Ryan et al. (2005), these cutoff scores were developed

after experienced, senior level family therapists conducted comprehensive family assessments using the McMaster Model of Family Functioning, rated each dimension as healthy or unhealthy, and matched the clinicians' ratings with that of the family's FAD score. The means and standard deviations were calculated after pooling FAD scores from several hundred families. (p. 129)

RESULTS

Demographics

Four men and 72 women participated in telephone interviews. Ninety-five percent of those interviewed lived with their care recipient, and 92% were married to or in a long-term relationship with the veteran. All but three of the caregivers were White, the average age was 69.70 ($SD = 12.07$). Sixteen percent had less than a high school education, 51% had earned a high school diploma or General Equivalency Diploma, 9% had some college; 16% had either an associate's or bachelor's degree, and 8% had postgraduate education.

Descriptive Statistics for Study Variables

On average, the veterans for whom family members were providing care described their health as good to fair ($M = 3.61$) (see Table 1). For the FAD, the problem solving subscale had the lowest and roles had the highest average score (lower scores indicate healthier family functioning). Scores on the three caregiver burden subscales ranged from 7.36 to 13.47 (higher scores indicate increased burden), and the average score on uplifts was 17.52 (higher scores indicate increased fulfillment in caregiving). Using previously determined cutoff scores (Ryan et al., 2005), most caregivers rated their family functioning as healthy on the five subscales (see Table 2).

TABLE 1 Descriptive Statistics for Variables in the Regression Equations

	<i>M</i>	<i>SD</i>	<i>n</i>
Dependent variables			
Relationship burden ^a	7.36	3.52	75
Objective burden ^b	13.47	5.02	72
Stress burden ^a	10.53	4.40	72
Uplifts ^b	17.52	5.67	67
Independent variables			
Veteran self-perceived health status ^c	3.61	.96	74
Problem solving ^d	1.82	.45	76
Communication	1.93	.48	76
Roles	2.04	.46	76
Affective responsiveness	1.89	.60	76
Affective involvement	1.67	.60	76

^aScores on subscales from the revised Montgomery-Borgatta Caregiver Burden Scale range from 5 to 25 with higher scores indicative of higher levels of burden.

^bScores on subscales from the revised Montgomery-Borgatta Caregiver Burden Scale range from 6 to 30 with higher scores indicative of higher levels of burden (objective) and increased uplifts.

^cScores range from 1 (*poor health*) to 5 (*excellent health*).

^dScores on five Family Assessment Device subscales range from 1 (*healthy*) to 4 (*unhealthy*) family functioning.

TABLE 2 Percentage of Caregivers Scoring Healthy versus Unhealthy on Family Assessment Device Subscales

	Healthy functioning	Unhealthy functioning
Problem solving	82	18
Communication	71	29
Roles	75	25
Affective responsiveness	68	32
Affective involvement	78	22

N=76.

TABLE 3 Summary of Regression Analyses for Relationship Burden, Uplifts, and Stress Burden

	Relationship burden (n = 73)			
	B	SE B	B	t
Constant	-.35	2.47		-.14
Veteran self-perceived health status	.16	.40	.04	.39
Family functioning subscales				
Problem Solving	.24	1.17	.03	.20
Communication	-1.56	1.14	-.21	-1.36
Roles	2.74	1.05	.34	2.61*
Affective Responsiveness	1.58	.96	.27	1.65
Affective Involvement	.66	1.01	.10	.66
	Uplifts (n = 65)			
	B	SE B	B	t
Constant	27.86	4.19		6.65
Veteran self-perceived health status	.18	.73	.03	.24
Family functioning subscales				
Problem Solving	-3.93	2.07	-.30	1.90**
Communication	-.11	1.91	-.01	-.06
Roles	.38	1.73	.03	.22
Affective Responsiveness	-4.15	1.61	-.42	-2.57*
Affective Involvement	2.25	1.76	.21	1.28
	Objective burden (n = 70)			
	B	SE B	B	t
Constant	4.34	3.81		1.14
Veteran self-perceived health status	.65	.60	.13	1.08
Family functioning subscales				
Problem Solving	2.19	1.89	.20	1.16
Communication	-3.14	1.83	-.30	-1.71
Roles	2.26	1.57	.21	1.44
Affective Responsiveness	1.57	1.44	.19	1.09
Affective Involvement	.57	1.52	.07	.38

*p < 0.05, **p < 0.07.

Impact of Family Functioning on Caregiver Burden and Fulfillment

To address the study's research question, four hierarchical multiple regression analyses were performed, regressing the veteran's perceived health status as a control variable and the five FAD subscales as independent variables (problem solving, communication, roles, affective involvement, and affective responsiveness) on the four dimensions of caregiver burden (relationship burden, objective burden, stress burden, and uplifts). Analyses revealed that the five family functioning dimensions significantly influenced two of the four burden dimensions: relationship burden ($R^2 = .27$, $p < 0.01$), and uplifts ($R^2 = .29$, $p < 0.01$). Furthermore, inspection of the regression coefficients indicated that the roles subscale was significant in the relationship burden equation, and the affective responsiveness subscale was significant for uplifts. In addition, the regression coefficient for problem solving approached significance ($p < 0.07$) in the uplifts equation. The regression equation for objective burden was nearly significant with an $R^2 = .18$, $p = .052$ (see Table 3).

DISCUSSION

Among this sample of predominantly White, female older caregivers of veterans with congestive heart failure, family functioning dimensions are significantly related to their experience of relationship burden and caregiving uplifts. This suggests that healthier family functioning is related to decreased perceptions of being taken advantage of and manipulated in the context of the caregiving relationship. In addition, improved family functioning is associated with increased perceived rewards in the caregiving context. More specifically, the family functioning roles subscale was an important predictor of relationship burden, and affective responsiveness was significant when predicting uplifts. Family functioning was not successful in predicting objective or stress burden, but the regression equation for objective burden did approach significance ($p = .052$). These data support the findings from other studies that conclude that family functioning is significantly related to the experience of caregiver burden and adds new information to the knowledge base about how family functioning can influence caregivers' sense of fulfillment.

Findings in the Context of Current Literature

Heru et al. (2004) found that unhealthy family functioning was associated with higher levels of caregiver strain and burden, using bivariate analyses on data from 38 caregivers of patients with dementia. The sample size precluded the researchers from using more sophisticated statistical techniques that would allow them to assess which subscales, if any, differentially

affected perceived burden and strain. Another study (Tremont et al., 2006) examined the unique contribution of family functioning to caregiver burden among caregivers of patients with dementia and found that even after controlling for caregiver depression and anxiety and patient behavior problems, problems in family functioning were associated with increases in caregiver burden. To determine what family functioning variables contributed the most to increased burden, FAD subscale scores were then compared between low- and high-burden groups (as determined by scores on the unidimensional Zarit Burden Interview). This analysis revealed that disturbances in the roles and communication subscales were significantly related to higher levels of caregiver burden.

The allocation of roles needed to fulfill instrumental and affective tasks in the family appears to be an important dimension of functioning in the experience of caregiver burden. The current study found the roles subscale to be a unique contributor to burden, more specifically, relationship burden, suggesting that clear role allocation reduces the caregivers' feelings of being taken advantage of or manipulated. Although the Heru et al. (2004) and Tremont et al. (2006) studies described above used different measures of caregiver burden, this evidence underscores the importance of family functioning in the caregivers' experience of burden. The current study makes a unique contribution through its use of a multidimensional measure of caregiver burden, analyses employing multivariate statistics, and a sample of caregivers of veterans with congestive heart failure, a diagnosis that has not been studied extensively in the caregiving literature.

Clinical Relevance

As indicated earlier, the MMFF was chosen as the theoretical model for this research because of its clinical relevance and evidence base that supports its use among families caring for a member with a chronic illness. The model is a systems approach that emphasizes transactional patterns between and among family members as a context for the tasks that need to be accomplished for the social, psychological, and biological development and maintenance of family members (Ryan et al., 2005). This approach resonates well with social work values and ethics and can be used to inform clinical assessment and intervention when working with older families with an ill member. As such, the MMFF dimensions are well operationalized, amenable to clinical intervention. The findings from the current research, corroborated by the data from other studies, suggests that clinical interventions aimed at promoting healthy family functioning may reduce caregiver burden.

The significant regression analyses illuminate areas that may be amenable for clinical intervention to help family caregivers cope with the burden and cultivate the uplifts associated with their caring responsibilities. For relationship burden, the roles subscale was a significant predictor. This

finding supports the conclusion reached in the Tremont et al. (2006) study suggesting that clear delineation of and accountability for role functions in families caring for a chronically ill member is important in managing the experience of caregiver burden; as such, clarification of role functions in the family may be particularly important in managing unreasonable or manipulative requests made by ill family members. On a more positive note, increased uplifts or the perceived rewards that come with caregiving responsibilities are also associated with dimensions of family functioning, particularly affective responsiveness. This suggests that families who are able to react appropriately to situations with a full spectrum of emotional responses are more likely to experience caregiving responsibilities as fulfilling and uplifting. The current study is distinct from others in the caregiving burden literature as it also examines the rewards and fulfilling aspects of the caregiving experience; in using a strengths-based model, focus on uplifts would be important consideration when helping family caregivers cope with the many tasks associated with taking care of an ill family member.

As previously indicated, the MMFF is a well-explicated, thoroughly operationalized, and relatively straightforward approach to working with families who are facing difficulties. Clinicians and researchers interested in learning more about its praxis are encouraged to review the text *Evaluating and Treating Families* by Ryan et al. (2005). They provide the background for the development of the MMFF, a thorough explanation of the model, evidence-based clinical assessments, and a summary of the research on the model. Regardless of the flavor of family systems theory clinicians and researchers use to approach their work with older families with an ill member, it is important to ground one's work in an evidence base associated with positive outcomes for individuals and families.

Study Limitations

Although the results of the current study are promising in helping to better understand various dimensions of caregiver burden in the context of the family system, the findings should be assessed vis-à-vis the study's limitations. The sample's homogenous composition (mostly White women who are married to the care recipient) is one of the study's primary weaknesses, thus making generalizations of the findings to other caregiver populations is problematic. A baseline assessment of the caregivers' depression and anxiety levels is also missing. Those variables could not be controlled for in the analyses and could be operating as confounds. For example, the regression equation for stress burden was not significant. Stress burden assesses the affective component of caregiver burden and includes items related to hopelessness, anxiety, and depression. Tremont et al. (2006) found strong bivariate relationships between problematic family functioning and caregiver depression and anxiety. Exclusion of a depression measure is a design

weakness that should be addressed in future studies using the FAD and Montgomery-Borgatta Caregiver Burden Scale.

Statistical power could have been affected by the small sample size. Although two of the four regression equations were significant, a third approached significance, and it cannot be clear as to whether poor family functioning results in caregiver burden or vice versa. To address this inherent weakness in cross-sectional research and promote generalizability, future studies that utilize longitudinal designs employing larger, diverse samples need to be conducted to further illuminate how caregiver burden and family functioning are interrelated.

CONCLUSION

This and other works suggest that the characteristics of the family system and how it functions can affect the caregiving experience. These data can form the foundation for intervention studies in which the systematic implementation of the MMFF or other forms of family therapy are examined for effectiveness in reducing caregiver burden and increasing the experience of fulfillment and reward in caring for an ill family member. As the number of older adults requiring care continues to grow, clinicians need a diverse and rigorous evidence base on which to draw effective and efficient interventions to improve the quality of life families and their aging members.

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