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Caregiver Attributions for Late-Life Depression and Their Associations with Caregiver Burden

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Abstract

Late-life depression (LLD) has detrimental effects on family caregivers that may be compounded when caregivers believe that depressive behaviors are volitional or within the patient's capacity to control. In this study we examined three person-centered caregiver attributions that place responsibility for LLD on the patient (i.e., character, controllability, and intention), and the impact of such attributions on levels of general caregiver burden and burden specific to patient depressive symptoms. Participants were 212 spouses and adult children of older adults enrolled in a depression treatment study. Over one third of caregivers endorsed character attributions, which significantly predicted greater levels of both general and depression-specific burden. Intention attributions were significantly associated with general burden, but not depression-specific burden. Contrary to our expectation, controllability attributions did not predict either type of burden. Our findings suggest that the assessment of family caregiver attributions for LLD may be useful in identifying caregivers at risk for burden and subsequent health effects, as well as those who may need education and support to provide effective care to a vulnerable population of older adults.

Keywords

Depression; Caregiver; Burden; Attributions; Older Adults

Late-life depression (LLD) is a chronic condition that has negative long-term consequences for older adults and their families. Caring for an older family member with depression has been linked to poor mental health (McCusker, Latimer, Cole, Ciampi, & Sewitch, 2007) and psychological burden associated with caregiving demands (Martire et al., 2008). Compared with physical health problems, symptoms and behaviors associated with mental illness may be more likely to be viewed by family members as volitional. Furthermore, such caregiver attributions for the cause of LLD may contribute to the level of burden experienced as a result of patient symptoms (Billig, 1991). The purpose of this study was to examine caregiver attributions that place responsibility for depressive symptoms on the patient, and the impact of such attributions on levels of caregiver burden.

Depression is typically accompanied by complex and challenging behaviors including loss of interest in daily activities, negative affect, changes in eating or sleeping routines, statements of self-criticism or hopelessness, and maladaptive social functioning. As applied to elder caregiving, attribution theory (e.g., Kelley & Michela, 1980; Weiner, 1980) predicts that caregivers form causal explanations of behaviors displayed by care recipients, with a tendency toward making internal rather than external attributions in the absence of strong evidence that these behaviors are beyond the care recipient's control (Williamson et al., 2005). Similarly, the symptom-controllability model of mental illness posits that family attributions regarding patient behavior place responsibility on either the patient or the illness (Hooley, 1987). In accordance with this model, attributing depressive behaviors to some amount of personal control or responsibility may have negative implications for the family member's caregiver burden.

Drawing on the frameworks of attribution theory and the symptom-controllability model, this study focused on three types of person-centered caregiver attributions. Similar to the personal dimension examined in previous research (Hooley & Licht, 1997; Tarrier et al., 2002; Yang, Phillips, Licht, & Hooley, 2004), *character attributions* reflect caregiver perceptions of the patient as lazy or lacking in willpower, self-discipline, or motivation. *Controllability attributions* reflect the caregiver's belief that the patient could control his or her depressive symptoms, consistent with previous research that measured the perceived controllability of patient illness behaviors (Hooley & Campbell, 2002; Hooley & Licht, 1997; Tarrier et al., 2002). Finally, *intention attributions* indicate the caregiver's view of patient depressive symptoms as manipulative and deliberate behaviors, similar to attribution dimensions assessed in other studies (Bauserman, Arias, & Craighead, 1995; Williamson et al., 2005). All three attributions in this study were conceptualized as person-centered because they place responsibility for the patient's depressive symptoms on personal factors rather than illness factors.

Hooley and Campbell (2002) suggested that family members' perceptions of patient responsibility affect their reactions to caregiving. Feelings of burden or strain stemming from the demands of providing care are the most commonly reported experiences by elder family caregivers and have a detrimental impact on mental and physical health (Martire & Schulz, 2012). That is, high levels of caregiver burden have been associated with lower quality of life, poorer physical and psychological health (Ho, Chan, Woo, Chong, & Sham, 2009), and increased likelihood of mortality and hospitalization (Kuzuya et al., 2011). Among older spousal caregivers, Schulz and Beach (1999) found that emotional or mental caregiving strain (i.e., burden) was associated with a 63% increase in mortality rate over a 4-year period.

Considering the potential for serious health consequences from caregiving, it is imperative to identify factors that put caregivers at risk for high levels of burden, such as attributions for patient symptoms. However, only a handful of studies have examined burden among caregivers of older adults with depression. Levels of burden in family caregivers of older adults with depression have been found to be comparable with those found among caregivers of older individuals with mild-to-moderate dementia (Leinonen, Korpisammal, Pulkkinen, & Pukuri, 2001; Liptzin, Grob, & Eisen, 1988; Scazufca, Menezes, & Almeida,

2002). In a sample of family caregivers of frail, medically ill older adults, the experience of caring for individuals with depression was associated with greater adverse effects on mental health and perceived quality of life as compared with caring for individuals who were not depressed (Sewitch, McCusker, Dendukuri, & Yaffe, 2004). Likewise, McCusker and colleagues (2007) found that poor mental health in informal caregivers of older medical inpatients was independently associated with a diagnosis of major depression in the inpatient.

Two types of caregiver burden are important to examine within the context of LLD. General caregiving burden indicates the global impact of the caregiving role, such as the effects of the patient's illness on health, social life, other family responsibilities, and finances. In addition, caregiver burden specific to patient depressive symptoms and behaviors is meaningful to assess, as this is a distinct type of burden for family members caring for individuals with depression (Martire et al., 2009).

The purpose of this study was to extend previous research by examining person-centered attributions for LLD and their impact on caregiver burden. We focused on spouses and adult children of older adults enrolled in a treatment study for major depression. Caregivers were identified as individuals who currently provide the most support or assistance to patients (e.g., Martire et al., 2008, 2010). Consistent with the symptom-controllability model, we assessed person-centered attributions that placed responsibility on the patient due to his or her personal characteristics (character attributions), ability to control depressive symptoms (controllability attributions), and manipulative or deliberate behavior (intention attributions).

Our first aim was to identify caregiver characteristics associated with these attributions. On the basis of previous research indicating that, compared with younger adults, older adults are less likely to recognize depression and more likely to place blame or responsibility on an individual for his or her depression (Connery & Davidson, 2006), we predicted that spouses would be more likely than adult children to make person-centered attributions. In addition, we predicted that caregivers who reported a personal history of diagnosis or treatment of a psychological disorder would be less likely to endorse person-centered attributions, perhaps due to increased understanding of and empathy for mental illness. Next, we anticipated that caregivers of individuals with late-onset depression (i.e., the first depressive episode occurred at age 60 or older) would be less likely to endorse person-centered attributions compared with individuals who reported earlier onset depression, as later onset results in a relatively sudden change in behavior that may be accepted by family members as beyond the patient's responsibility or control.

Our second aim was to examine associations between person-centered attributions and caregiver burden. Controlling for factors that were previously identified as predictive of burden in this sample of caregivers (Martire et al., 2010), we predicted that person-centered attributions would be associated with higher levels of burden specific to depressive symptoms. Likewise, we expected that greater endorsement of person-centered attributions would be associated with higher levels of general caregiver burden. We did not have differential predictions for the associations of each type of caregiver attribution with caregiver burden.

METHOD

Participants

Participants were 212 spousal or adult child caregivers to older adults with depression. The older adults are a subsample of primary care patients who enrolled in a treatment study for major depressive disorder (MDD) and participated in an ancillary family caregiver assessment study. The purpose of the treatment study was to examine the effects of interpersonal psychotherapy and antidepressant medication on patients with a partial or nonresponse to medication alone (Reynolds et al., 2010).

All patients were 60 years of age or older with a score of 17 or higher on the Mini-Mental Status Examination (Folstein, Folstein, & McHugh, 1975). Patients met criteria for current nonpsychotic MDD as determined by the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID for DSM-IV; First, Gibbon, Spitzer, Williams, & Benjamin 1997), and had baseline scores ranging from 15 to 27 ($M = 18.46$, $SD = 3.03$) on the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960). In this study, patients were grouped according to age of first onset of depression. Patients with early-onset depression ($n = 93$) reported the occurrence of depressive symptoms prior to age 60. Patients reporting the onset of depressive symptoms after age 60 were considered to have late-onset depression ($n = 119$).

Caregivers were identified by patients as the family member or friend who provides the most support or assistance to them, consistent with previous research in the area of family and mood disorders (e.g., Hinrichsen, 1991; Perlick et al., 2004). Although not a requirement for participation, the majority of caregivers (88%) were assisting patients with at least one personal or independent activity of daily living (IADL or PADL). All caregivers were at least 18 years of age, living independently in their own homes, and cognitively intact (i.e., making no more than three errors on the 10-item Short Portable Mental Status Questionnaire; Pfeiffer, 1975). Recruitment for this study proceeded in two phases. First, patients who were interested in participating provided consent for their caregiver to be contacted. Second, caregivers were contacted for screening and to request their participation in the study. Structured, in-person interviews were conducted with participating caregivers within 1–2 weeks of patient baseline assessment and the beginning of treatment.

A total of 368 patients were screened for participation in the ancillary caregiver study. Of these patients, 244 participated in the study, which included caregivers who were spouses or romantic partners ($n = 103$), adult children ($n = 109$), and other family members or friends ($n = 32$). Patients who participated in the caregiver study ($n = 244$) were compared with patients who did not participate ($n = 124$) on demographic and clinical characteristics. The only difference between the groups was that patients who participated in the study were more likely to be White than those who did not participate ($\chi^2(1, N = 365) = 9.67, p = .002$). Among those who did not enroll in the study, approximately half refused to participate and the remaining dyads were ineligible for participation. This report focuses on the 212 dyads consisting of a patient and spouse or adult child because these relationships are particularly important to patients' daily lives (Hinrichsen, 1991).

Caregiver Measures

Mean ages for spouses and adult child caregivers were 68.55 ($SD = 8.90$; range = 36–88) and 48.00 ($SD = 9.85$; range = 24–85) years, respectively. The majority of caregivers were adult children of the patient (51.4%). Caregiver depressive symptomatology was measured at baseline with the 20-item Centers for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), which assesses symptoms on a scale from 0 (rarely or none of the time) to 3 (most of the time). The mean CES-D score was 10.55 ($SD = 10.39$; range = 0–49). Additional caregiver characteristics are shown in Table 1.

Person-centered attributions—The three attributions examined in this study were assessed using five items adapted from measures used in previous studies (Hinrichsen & Lieberman, 1999; Medvene & Krauss, 1989). Caregivers were asked to indicate the extent to which they agreed or disagreed with each item on a scale from 1 (strongly disagree) to 6 (strongly agree). The *character attributions* subscale included two items (i.e., “His/her mood disorder is caused by his/her low levels of self-discipline, motivation, or willpower” and “His/her mood disorder is caused by his/her laziness”). The mean score for this subscale was 4.52 ($SD = 2.39$; range = 2–12). *Controllability attributions* consisted of one item (i.e., “He/she could control his/her mood disorder if he/she wanted to”). The mean score for this subscale was 2.36 ($SD = 1.29$; range = 1–6). The *intention attributions* subscale contained two items (i.e., “His/her mood disorder is his/her way of manipulating others” and “His/her mood disorder is deliberate and malicious”). The mean score for this subscale was 3.78 ($SD = 2.04$; range = 2–12). Alpha reliability for character attributions and intention attributions was .62 and .67, respectively. Bivariate correlation coefficients (r) between the different types of attributions were .36 for character and controllability ($p < .001$), .31 for character and intention ($p < .001$), and .22 for controllability and intention ($p = .001$).

Depression-specific caregiver burden—The Mood Disorder Burden Index (Martire et al., 2009) was used to measure depression-specific burden. In this study, we used the 11 items from this index representing the nine symptoms associated with a DSM-IV diagnosis of MDD (e.g., sad or tearful, less interest or pleasure in activities). Symptoms of too much or too little sleep, and suicidal ideation or attempt, were split into separate items. Caregivers who indicated that the patient displayed a symptom in the past month subsequently rated the degree to which they were bothered or upset by that symptom on a scale from 0 (not at all) to 4 (extremely). Total scores were determined by summing the score for each item. The mean score for this measure was 12.53 ($SD = 7.40$; range = 0–32) and alpha reliability was .79.

General caregiver burden—The 22-item Burden Interview was used to assess general caregiver burden, including the impact of the caregiving relationship on social activities, physical and psychological health, and finances (e.g., “How often do you feel strained when you are around him/her?” and “How often do you feel you have lost control of your life since his/her illness?”) (Zarit & Zarit, 1987). Item responses range from 0 (never) to 4 (nearly always) and the total score ranges from 0 to 88, with higher scores indicating greater burden. The mean score for this measure was 24.96 ($SD = 15.36$; range = 0–72), and alpha

reliability was .93. The bivariate correlation coefficient (r) between depression-specific and general burden was 0.49 ($p < .001$).

Covariates—Previous research using this sample (Martire et al., 2010) identified four caregiver characteristics that were significantly related to higher levels of general burden and depression-specific burden: greater age, lower household income, higher CES-D score, and being an adult child of the patient. In addition to these characteristics, we included caregiver-reported relationship quality and caregiver assistance with PADL/IADLs as covariates in tests of our second hypothesis based on our expectation that these measures may affect the experience of burden. Caregiver-reported relationship quality was measured using the 5-item Quality of Relationship Inventory (Norton, 1983), which assessed the extent to which caregivers agreed or disagreed with five statements regarding the perceived quality of their relationship with the patient (e.g., “Your relationship is very stable” and “Your relationship makes you happy”). Item responses ranged from 1 (strongly agree) to 4 (strongly disagree). The mean score for this measure was 16.54 ($SD = 3.48$; range = 5–20) and alpha reliability was .94. Caregiver assistance with PADL/IADLs was determined as the total number of PADLs (e.g., help with dressing, managing medications) and IADLs (e.g., preparing meals, doing laundry) for which the caregiver reported providing assistance to the patient over the past month. The mean score for this measure was 2.92 ($SD = 1.79$; range = 0–7). Patient depression severity prior to treatment (i.e., HRSD score) was also included as a covariate, as it was anticipated to have an impact on both types of caregiver burden.

Statistical Analyses

Our first aim included three hypotheses. We used analysis of covariance (ANCOVA) to determine whether spouses were more likely than adult children to make person-centered attributions, controlling for caregiver age. For the second and third hypotheses, we used analyses of variance (ANOVA) to test whether caregivers with a history of psychological disorder were less likely to make person-centered attributions relative to caregivers without such history, and whether caregivers of patients with late-onset depression were less likely to make person-centered attributions compared with caregivers of patients with early-onset depression.

To test the hypothesis that person-centered attributions are associated with greater levels of general and depression-specific caregiver burden, we conducted hierarchical ordinary least-squares regression analyses for each of these outcomes. In each of these models we entered the following caregiver characteristics in the first block of the analyses along with patient baseline HRSD score: age, household income, CES-D score, relationship to patient, and relationship quality. Our three person-centered attribution measures were entered in the second block of the analyses to examine their independent effects on general and depression-specific burden.

RESULTS

Table 1 summarizes caregiver and patient background characteristics. We examined the percentage of caregivers in our sample who endorsed each of the person-centered attributions, with endorsement defined as a score equal to or greater than 4 (i.e., not sure but

probably agree, agree, or strongly agree). For the two items in the character attributions subscale, 35.4% of caregivers endorsed that patient depression is due to laziness, and 10.3% endorsed that patient depression is due to low levels of motivation, self-discipline, or willpower. For controllability attributions, 22.1% of caregivers perceived that the patient's depression was within his or her control. For the two items in the intention attributions subscale, 18% of caregivers endorsed that patient depression is a means of manipulating others, and 5.2% perceived patient depression as deliberate and malicious.

Caregiver Characteristics Associated with Person-Centered Attributions

Table 2 shows comparisons for attributions between groups of caregivers in terms of their relationship to the patient, reported history of psychological problems and/or psychological treatment, and age of onset of patient depression. There was a significant difference between spouses and adult child caregivers for controllability attributions when controlling for age, $F(1, 208) = 4.20, p = .04$. Consistent with our prediction, spouses were significantly more likely to make person-centered attributions for controllability ($M = 2.57, SD = 1.30$) relative to adult children ($M = 2.17, SD = 1.26$). In addition, caregivers with a history of psychological disorder ($n = 98$) were significantly less likely than those without a history of psychological disorder ($n = 114$) to make controllability attributions ($M = 2.16, SD = 1.38$ and $M = 2.54, SD = 1.19$, respectively), $F(1, 210) = 4.45, p = .04$. There was also a trend for caregivers with such a history to make fewer character attributions compared with those without this history. Contrary to our expectation, caregivers of patients with late-onset depression were not less likely to make person-centered attributions relative to caregivers of patients with early-onset depression.

Effect of Person-Centered Attributions on Caregiver Burden

As anticipated, significant associations were found between person-centered attributions and general caregiver burden (see Table 3). After controlling for caregiver characteristics and patient depression severity at baseline, character attributions ($\beta = .14, p = .02$) and intention attributions ($\beta = .22, p = .001$) were associated with higher levels of general burden. For depression-specific burden, a significant association was found for character attributions ($\beta = .19, p = .01$) after controlling for caregiver characteristics and patient depression severity. However, controllability and intention attributions were not significantly associated with depression-specific burden.

DISCUSSION

Caregiver attributions for LLD have received little research attention in the elder caregiving literature, despite findings indicating that placing responsibility on the patient may have detrimental effects on family caregivers (e.g., Hinrichsen & Lieberman, 1999; Tarrier et al., 2002; Williamson et al., 2005) and patients with psychological disorders (e.g., Barrowclough, Johnston, & Tarrier, 1994; Yang et al., 2004), including those receiving inpatient treatment for depression (Casten et al., 1999). In this study we showed that spouses were significantly more likely than adult children to perceive depression as within the patient's capacity to control. In addition, caregivers with a history of psychological disorder were significantly less likely to view depression as within the patient's control. Multivariate

analyses showed that caregivers with greater endorsement of intention attributions experienced more general caregiver burden, whereas character attributions were associated with higher levels of both general and depression-specific caregiver burden.

Our finding that character attributions were the most consistent predictors of both general burden and depression-specific burden may be explained by the nature of depressive symptoms. Previous studies on mood disorders have conceptualized patient behavior in terms of positive and negative symptoms (Barrowclough et al., 1994; Harrison, Dadds, & Smith, 1998; Hooley, Richters, Weintraub, & Neale, 1987; Provencher & Mueser, 1997). Positive symptoms generally consist of overt behaviors that are uncharacteristic or unusual in nature (e.g., aggression, crying episodes, delusions); therefore, these symptoms are more likely to be attributed to situational or illness factors that are beyond the patient's control. In contrast, the negative symptoms that are common in depression involve behavioral deficits and reduced levels of functioning (e.g., self-neglect, fatigue, infrequent activity engagement). Perhaps because these deficits may not appear to be the result of situation or illness, they are more likely to be perceived as indicative of the patient's unwillingness to engage in adaptive behaviors (Hooley et al., 1987). Similar to negative symptoms, character attributions in this study reflect the caregiver's perception of patient depression as the result of deficits in motivation, self-discipline, and willingness to engage in functional behavior. Such perceived behavioral deficits may lead caregivers to view the demands of providing care as an unnecessary strain resulting from the patient's refusal to do his or her part to improve levels of daily functioning, which may explain the strong relationship between these attributions and caregiver burden.

Given the implications of person-centered attributions for caregiver burden, it is important to identify caregiver or patient characteristics that may be associated with such attributions. Although a multitude of factors may contribute to caregiver endorsement of person-centered attributions, these attributions likely reflect a lack of understanding of depression and its effects on the mood and behavior of older family members. The finding that caregivers who reported a personal history of psychological disorder were less likely to endorse person-centered attributions suggests that previous experience with mental illness may increase understanding of individuals with these problems.

Our finding that spouses are significantly more likely to make controllability attributions for LLD suggests that these attributions may be related to a cohort effect. Specifically, the relatively younger sample of adult children may have been more likely to attribute LLD to causes outside of the patient's control (e.g., biological factors or environmental stressors), whereas stigma related to depression may explain the greater likelihood of controllability attributions made by spouses. These findings are consistent with previous research indicating that, relative to younger adults, older adults may be less likely to recognize depression and more likely to attribute depression to personal blame or responsibility (Connery & Davidson, 2006). Alternatively, these differential patterns between spouses and adult children may be related to qualitative differences between the two family relationships. For instance, marital relationships may have a longer history of (and expectation for) reciprocal exchanges, which may explain the belief of spousal caregivers that the patient could do more to control his or her depression if desired. Collectively, these findings suggest

that endorsement of person-centered attributions may be related to a lack of education about depression as well as to past and present characteristics of the caregiver–patient relationship.

Although controllability was the dimension on which groups of caregivers differed in our sample, controllability attributions did not predict burden when considered with the other person-centered attributions. It is possible that this finding is due to qualitative differences in caregiver–patient relationships. Specifically, the perception that the patient could control depressive symptoms if desired may indicate a caregiver–patient relationship that is characterized by indifference, whereas the belief that patient depression is caused by laziness or manipulative intent may be more likely to indicate a relationship characterized by feelings of anger, resentment, or frustration.

Previous research has indicated that attributions for depression that place personal responsibility on the patient may have a negative impact on family relationships, including greater criticism, hostility, and emotional overinvolvement, fewer expressions of warmth (Hinrichsen, Adelstein, & McMeniman, 2004), and higher levels of marital distress (Bauserman et al., 1995). Greater resentment about providing care has been found among family caregivers of older cardiac patients who believe that the patient is not willing to engage in behaviors necessary to improve his or her health (e.g., diet, exercise) (Thompson, Medvene, & Freedman, 1995). Likewise, family caregivers of patients with dementia who perceive problem behaviors to be within the patient's control are more resentful about their care demands (Williamson et al., 2005). In this study, relationship quality was a significant predictor of general burden; however, this was not found to be the case for depression-specific burden. This pattern may be partly explained by differences between the two burden measures. While our depression-specific burden measure assessed the extent to which caregivers were burdened by the patient's depressive symptoms, our general burden measure captures the effects of caregiving on the caregiver–patient relationship that are likely to overlap conceptually with intention attributions (e.g., feeling that the patient asks for more help than he/she needs, feeling strained when around the patient). In other words, compared with depression-specific burden, general burden may be more sensitive to relationship quality, which may also be reflected in our intention attributions measure. Thus, the finding that the intention attributions were associated with greater general burden after controlling for relationship quality suggests that, when such attributions are made, their negative impact on burden is particularly strong. Considering the low rate of intention attributions in our sample, we believe that their associations with general burden are especially striking.

This study has important implications for the broader caregiving literature. We examined caregiver burden within the context of LLD, which has received little research attention. The considerable care demands associated with LLD suggest a need for further research regarding their impact on family caregivers. Langa, Valenstein, Fendrick, Kabeto, and Vijan (2004) found that older adults with LLD require more hours of informal care per week, even after taking into account the additional time requirements of major chronic comorbid conditions.

Strengths of this study include our focus on a novel research question, a multidimensional assessment of person-centered attributions for depression, a large sample of spousal and

adult child caregivers, and inclusion of important caregiver and patient covariates in our multivariate models. Despite these strengths, the cross-sectional design precluded examination of temporal ordering of constructs. Alpha reliability was relatively low for our measures of character and intention attributions, and we were limited to a 1-item measure of controllability attributions. However, our controllability item was conceptually consistent with controllability constructs used in previous research (e.g., Hooley & Campbell, 2002; Hooley & Licht, 1997). Furthermore, it is important to acknowledge that our person-centered attribution measures accounted for a small amount of unique variance in caregiver burden, and findings were surprisingly modest for depression-specific burden. Our finding that these attributions had significant independent effects after controlling for a host of variables that are related to burden is noteworthy in light of these limitations.

The generalizability of our findings may be somewhat limited by our selective sample. Many caregivers in this study likely played a role in the decision to seek treatment for the patient, and findings may not generalize to caregivers and patients who are not seeking such services. However, it may also be the case that the endorsement of person-centered attributions by caregivers in this study may be an underestimate compared with the wider population. Our finding that more than one third of caregivers attributed patient depression to laziness is striking, and raises the question of whether caregivers who are less involved with their family member's treatment may report even higher rates of these attributions.

This study has several implications for clinical practice with depressed older adults and their families, and for future research. Our finding that character attributions and intention attributions were most predictive of caregiver burden suggests that these attributions may be important to assess during interviews with caregivers. Such assessment may be helpful in identifying caregivers who are at risk for higher levels of burden and thus a greater likelihood of physical and psychological morbidity (Ho et al., 2009; Martire & Schulz, 2012). For caregivers endorsing these attributions, providing education about the involuntary nature of symptoms and behaviors associated with depression may be appropriate. In addition, it may be important to assess potential interpersonal problems between caregivers and patients, as attributions that place responsibility for depression on the patient may have an adverse impact on caregiver–patient relationships (Hinrichsen & Zweig, 1994; Sacco, 1999). Finally, caregiver attributions which do not place responsibility on the patient may be an important topic for future research, including potential buffering effects of such attributions on caregiving stressors.

Clinical depression affects approximately 6–10% of older primary care patients (John A. Hartford Foundation, 2011). In addition, the course of depression in community-dwelling older adults is generally chronic and unfavorable, with a fluctuating but poor course in 44% of elders, and persistent and severe symptoms in 34% (Beekman et al., 2002). These findings, along with the projection that nearly one in five Americans are expected to be age 65 and older by 2030 (Vincent & Velkoff, 2010), suggest that LLD is likely to have an increasing impact on families. Thus, additional research is needed to determine effective ways to support caregivers as well as older patients with depression. Findings from this study suggest that the assessment of person-centered attributions may help to identify caregivers who are at risk for greater burden, which has important implications not only for

the health and well-being of caregivers but also for their ability to provide effective care for a vulnerable group of older adults.

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Table 1

Sample Characteristics of Caregivers and Patients

Characteristic	<i>M</i>	<i>SD</i>	%	<i>N</i>
Caregivers				
Age of spouse	68.55	8.90		
Age of adult child	48.00	9.85		
Women			62.30	132
White			87.70	185
Years of education	14.81	1.94		
Spouse			48.60	103
Assistance with IADL/PADLs (no. of activities)	2.93	1.79		
Patients				
Age	73.76	7.90		
Women			68.90	146
Age at onset of MDD	56.43	20.74		
Severity of current MDD episode	18.46	3.03		

Note. IADL/PADL = instrumental and personal activities of daily living; MDD = major depressive disorder.

Severity of current MDD episode is based on the Hamilton Rating Scale for Depression (HRSD); *N* = 212.

Table 2

Comparison of Attributions by Caregiver Characteristics

Person-centered attributions	Spouses (<i>n</i> = 103)			Adult Children (<i>n</i> = 109)			History (<i>n</i> = 98)			No History (<i>n</i> = 114)			Early Onset (<i>n</i> = 93)			Late Onset (<i>n</i> = 119)		
	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>	<i>F</i>	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>	<i>F</i>	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>	<i>F</i>
Character	4.46	2.30		4.58	2.48	0.18	4.24	2.39		4.75	2.37	2.42	4.47	2.25		4.55	2.49	0.06
Controllability	2.57	1.30		2.17	1.26	4.20*	2.16	1.38		2.54	1.19	4.45*	2.25	1.22		2.45	1.34	1.34
Intention	3.74	2.09		3.81	2.01	0.60	3.87	2.24		3.70	1.87	0.34	3.63	2.07		3.89	2.02	0.81

Note. History includes caregivers with a self-reported history of psychological disorder; no history includes caregivers without such a history. Early onset includes caregivers of patients with age at onset of depression prior to age 60 years; late onset includes caregivers of patients with onset of depression occurring at 60 years or older; *N* = 212.

* *p* .05.

Table 3

Associations between Person-Centered Attributions and Caregiver Burden

Predictor	General Burden (ZBI)					Depression-Specific Burden (MDBI)						
	B	SE	β	SE	t	R ²	B	SE	β	SE	t	R ²
Step 1												
Caregiver relationship to patient	6.41	2.51	.21	.08	2.55***	.42***	0.88	1.45	.06	.10	0.61	.18***
Caregiver age	−0.14	.09	−.13	.08	−1.54		−0.06	.05	−.11	.10	−1.12	
Caregiver household income	−0.04	.43	−.01	.06	−0.10		−0.02	.25	−.004	.07	−0.06	
Caregiver CES-D scores	0.31	.08	.21	.06	3.72***		0.10	.05	.15	.07	2.12**	
Caregiver relationship quality	−1.84	.25	.41	.06	−7.46***		−0.07	.14	−.03	.07	−0.48	
Assistance with IADL/PADLs	3.33	.51	.39	.06	6.58***		1.53	.29	.37	.07	5.21***	
Patient baseline depression	−0.03	.27	−.01	.06	−0.09		0.25	.16	.10	.07	1.58	
Step 2												
Character attributions	0.88	.36	.14	.06	2.44*	.06***	0.58	.22	.19	.07	2.69***	.03 ^a
Controllability attributions	−1.04	.67	−.09	.06	−1.56		−0.34	.40	−.06	.07	−0.85	
Intention attributions	1.61	.46	.22	.06	3.53***		−0.18	.27	−.05	.08	−0.66	

Note. CES-D = Centers for Epidemiologic Studies Depression Scale; MDBI = Mood Disorder Burden Index; ZBI = Zarit Burden Inventory.

N = 212.

^ap .07.

*p .05.

**p .01.

***p .001.