

Burden and Cognitive Appraisal of Stroke Survivors' Informal Caregivers: An Assessment of Depression Model With Mediating and Moderating Effects



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ABSTRACT

This study proposes and evaluates a model of depression that concerns the role of burden and cognitive appraisal as mediators or moderators of outcomes among stroke survivor caregivers. A total of 105 informal caregivers of stroke survivor completed the self-report measures of Caregiver Burden Inventory, Center for Epidemiologic Studies Depression Scale, and Cognitive Impact of Appraisal Scale. The Glasgow Coma Scale and Barthel Index were used by the researcher to examine the physical functional status of the survivor. Partial least squares (PLS) path modeling was used to estimate the parameters of a depression model that included mediating or moderating effects. The model shows that burden and impact of cognitive appraisal have a significant direct and indirect impact on depression, while survivor physical functional status does not have a direct impact. The model also demonstrates that burden and impact of cognitive appraisal separately play a mediating role between survivor physical functional status and caregiver depression. In addition, cognitive appraisal has a moderating influence on the relationship between burden and depression. Overall, survivor physical functional status, burden, and cognitive appraisal were the predictors of caregiver depression, explaining 47.1% of the variance. This study has shown that burden and cognitive appraisal are mediators that more fully explain the relationship between patient severity and caregiver depression.

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Stroke incidence increases with age, remains a leading cause of death and long-term disability, and has received global attention (Go et al., 2014). Previous studies have found that stroke survivors have various impairment and disabilities (Chan & Yeung, 1998; Lee, Chen, Hsueh, Wang, & Hsieh, 2010). Health policies, however, focus on issues of cost-effectiveness while the patient is in the hospital. Most stroke survivors return home after discharge from the hospital, after which their care is taken over by their family (Skibicka, Niewada, Skowrońska, Członkowska, & Członkowski, 2010). Patient disability often results in the need for additional care, which makes a primary family member an informal caregiver. Caregivers for stroke patients may incur serious negative consequences, referred to in previous studies as “burden” and “depression” (Denno et al., 2013; Jaracz, Grabowska-Fudala, Górna, & Kozubski, 2014; King, Hartke, & Houle, 2010). While studies have analyzed the predictors of depression, including patient disease severity, coping, and burden, the results and their causality have been inconsistent.

Cognitive appraisal is defined as a process through which the person evaluates the demands of a particular encounter with the environment, how these demands can be addressed, and the extent of his or her

confidence in addressing them. In the context of caregiving, the evaluation focuses on what can be done to prevent harm or enhance health. (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). For informal caregivers of stroke survivors, research has demonstrated that lower care confidence is related to higher depression scores (King, Shade-Zeldow, Carlson, Feldman, & Philip, 2002). Schulz, Tompkins, and Rau (1988) documented cognitive appraisal as a predictor for burden and depression. These studies show that, for caregivers of stroke patients, cognitive appraisal may influence burden and depression. Previous studies have found that patient disease severity was significantly associated with caregiver mental health (Heesacker, Hinojosa, Uthe, & Rittman, 2009; Schulz et al., 1988), while another study did not find this association (King et al., 2002). Nevertheless, whether coping or appraisal is the moderator among these variables needs further attention. The objectives of this study are to (1) determine the relationships between stroke survivor functional status, caregiver burden, cognitive appraisal, and depression; and (2) determine the mediating and moderating effects of this relationship.

BACKGROUND

Patient Disease Severity, Caregiver Burden, and Depression

Previous studies have recognized that patient disease severity is a determinant of caregiver burden (Jaracz et al., 2014; Rigby et al., 2009)

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and depression (Schulz et al., 1988). Further, research also has shown that patient disease severity and caregiver burden are predictors of caregiver mental health (Heesacker et al., 2009). Taken together, these studies show the relationship of these variables: Patient disease severity and caregiver burden are predictors of caregiver depression. Nevertheless, the findings about these relationships have been inconsistent. For example, Rigby et al. conducted a systematic literature review and found that eight of 24 articles showed patient disease severity to have a positive significant association with caregiver burden, while six articles did not show a significant relationship. King et al.'s (2002) study also shows that stroke survivor physical functioning did not have a significant association with caregiver depression. After a one-year follow-up, patients' physical functioning improved and burden was alleviated, but caregiver depression scores did not decrease. This may indicate that other factors affect caregiver mental health (Green & King, 2010). Overall, the literature has shown inconsistent findings in regard to the relationship among patient physical functioning and caregiver burden and depression. Thus, there may be mediating or moderating factors. Thus, the purpose of the current study is to clarify the relationship between the factors.

Patient Disease Severity and Impact of Caregiver Cognitive Appraisal, Burden, and Depression

Several studies have found that, as caregiver burden increases, caregivers are more likely to have anxiety and depression (Denno et al., 2013; Green & King, 2011) and that burden can predict the mental health of the caregiver (Heesacker et al., 2009). King et al. (2010) investigated 362 caregivers of stroke survivors and found that caregivers with higher impact appraisal reported more negative outcomes, such as negative life changes, more anxiety, and feeling unprepared to be a caregiver.

del-Pino-Casado, Frías-Osuna, Palomino-Moral, and Pancorbo-Hidalgo (2011) conducted a quantitative systematic review of homecare caregivers and found that avoidance coping has a positive significant association with subjective burden in caregivers of older relatives with dementia. However, the findings for the direction of the relationship were inconsistent. Further, two studies proposed that coping mediates or moderates the consequences of burden (Cooper, Katona, Orrell, & Livingston, 2008; Kim, Knight, & Longmire, 2007). Kim et al. found that caregivers with a higher burden and more avoidance coping would report poorer mental health; however, Cooper et al. found coping to mediate the relationship between burden and anxiety.

Further, a number of studies have proposed that burden is an antecedent of coping (Artaso, Goñi, & Biurrun, 2003; Hinrichsen & Niederehe, 1994) and that burden and coping can affect caregiver depression (García-Alberca et al., 2012a). Artaso et al. found that frequency of neuropsychiatric symptoms, social support, and coping strategy were predictors of burden, explaining 41% of the variability (Artaso et al., 2003). Thus, burden is associated with depression, and this relationship is affected by coping (García-Alberca et al., 2012b). Clearly, the association among these variables warrants further research.

Framework

Our study extends previous studies' findings, and our conceptual model is based on Moos and Schaefer's (1989) conceptual model for understanding the crisis of physical illness and Rogers (1983) revised theory of protection motivation. Moos and Schaefer indicated that an acute health crisis in an individual's life is a key transition point. While most patients can rationally adjust to the crisis, some people experience psychological health consequences. Thus, Moos and Schaefer focused on decision-related factors as related to psychological consequences, including cognitive appraisal, adaptive tasks, and coping skill. Rogers' protection motivation emphasizes the cognitive mediating process, in which the cognitive appraisal includes threat and coping appraisals. Finally, the concepts of decision-related factors (Moos & Schaefer, 1989) and the cognitive mediating process (Rogers, 1983) were adapted for use in our study. In this study, patient functional status is considered a disease-related factor, cognitive appraisal and burden are considered mediators, and depression is an outcome. The research model and hypotheses are shown in Fig. 1.

Hypotheses

H1a. Patient's physical functional status has a significant negative association with caregiver's burden.

H1b. Patient's physical functional status has a significant negative association with caregiver's cognitive appraisal impact.

H1c. Patient's physical functional status has a significant negative association with caregiver's depression.

H2a. Caregiver's burden has a significant positive association with caregiver's depression.

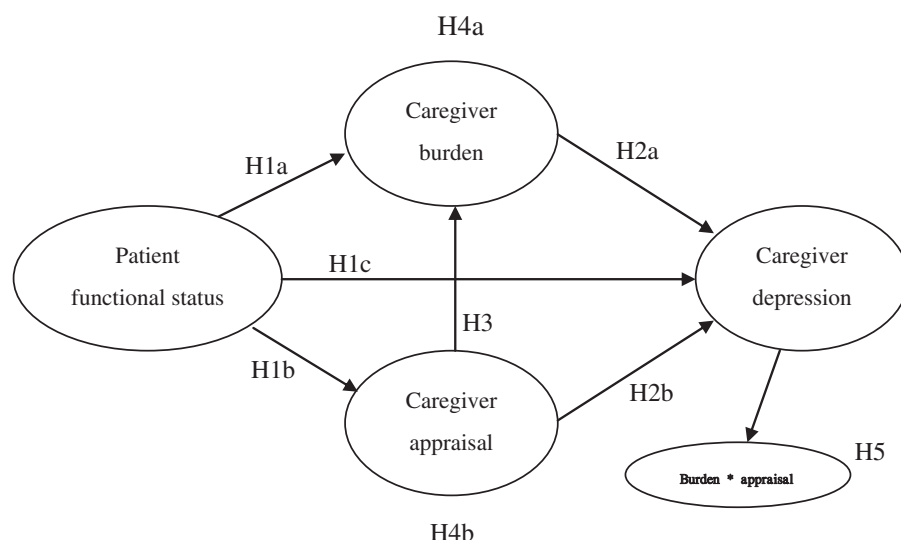


Fig. 1. Conceptual Model and Hypotheses.

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