

# Factors Influencing the Burden of Family Caregiving for Survivors of Stroke

Suneerat Boonsin, Aporn Deenan,\* Chintana Wacharasin

**Abstract:** Family caregivers undertake roles to assist survivors of stroke in all life aspects. However there are burdens for family caregivers brought on by their duties and responsibilities and difficulties related to life changes and adjusting to their new roles. In this cross-sectional, model testing study the aim was to examine factors influencing burden among family caregivers of survivors of stroke, during the first six months after stroke. A convenience sample of 200 caregivers of survivors of stroke from two hospitals in Central Thailand was recruited. Six instruments were used, including one to gather demographic data of survivors of stroke and caregivers, the Zarit Burden Interview, the Health Perception Scale, the Barthel Index, the General Perceived Self-Efficacy Scale, and the Revised Multi-dimensional Scale of Perceived Social Support. Descriptive statistics and structural equation modeling by AMOS were used to analyze data.

Results found that the final model of caregiving consisted of functional status of survivors of stroke, duration of care giving, self-efficacy, and number of hours of care with total variance explained 39%. Functional status and duration of care giving had direct and indirect effects on burden. Hours of care mediated functional status and caregiver burden, whereas self-efficacy mediated both functional status and duration of care giving and caregiver burden. Assessment for family caregiver burden prior to patient hospital discharge is essential. Nurses might consider innovative approaches to care, such as partnering with multidisciplinary team to develop online / mobile apps that families may access for current evidence in caregiving, practical tips for reducing burden, and enhancing self-efficacy through virtual support groups.

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## Introduction

Stroke is a chronic disease that often results in permanent disability and increases mortality rates. Spasticity and stiffness in upper and/or lower limbs often limit survivors of stroke from moving and taking care of themselves. Disability occurs usually about a

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month after the stroke.<sup>1</sup> Half of the survivors cannot walk and need gait training and physical rehabilitation,<sup>2</sup> and most develop dementia and depression after 10

weeks to six months post-stroke.<sup>3</sup> Thus, the first six months is an important period for improving physical function, preventing mental consequences, and participating in rehabilitation. Survivors of stroke need someone to provide daily care at home, assist them with activities of daily living (ADLs), and give psychological support.

Family members are most often the first to assume the role of caregiver immediately after a stroke, which often occur suddenly. Many family members are ill-prepared to quickly take on the required tasks of giving care, such as learning how to give personal and hygiene care, administer medications, monitor health and illness, plan and coordinate social services, and manage finances.<sup>4,5</sup> These family caregivers often experience difficulty in adjusting to their new roles, duties, and responsibilities,<sup>6</sup> and may become overwhelmed, exhausted, isolated from social networks, lack self-care, experience their own mental health problems (anxiety, stress, depression), and participate less in social activities.<sup>6</sup> The impact and totality of this situation can lead to what is called caregiver burden.

Burden can be divided into two types, objective and subjective.<sup>7</sup> Objective burden refers to the duties and responsibilities of giving care that needs to be done, the time family caregivers devote to assisting the survivors of stroke, and the changes in leisure, work, and social involvement.<sup>8</sup> Subjective burden is the feelings and emotional strain that family caregivers encounter in dealing with stressful tasks.<sup>9</sup> And families who care for survivors of stroke experience mild to severe levels of caregiver burden.<sup>10-15</sup> Researchers have studied caregiver burden after one to five years post stroke,<sup>5,14-17</sup> however, it is still not well understood about caregiver burden and its short-term impact on a family member following the person's stroke, especially in Thailand.

The results of predictive<sup>10,18-20</sup> and correlational studies<sup>14-15,17,21-23</sup> have shown that many factors are independently associated with burden of caregiving. There are the caregiver's circumstances (age, health status, daily hours of care, and duration of caregiving), survivors of stroke's conditions (age, functional status, dependence, and duration of the stroke), and general situation (number of caregivers and social support). Researchers have rarely investigated the simultaneous relationships among these variables and their effects on the burden of giving care to survivors of stroke. Therefore, the present study intended to improve and test a causal model to understand the complex relationships among the many factors associated with burden in family members who care for survivors of stroke, especially caregivers in Thailand with its cultural influences. We anticipated that the findings would help future family members reduce their burden of giving care to survivors of stroke and to develop the quality of their care.

## **Review of Literature**

The Modified Stress Process Model (MSPM) was used to guide the study,<sup>24</sup> providing a framework for understanding caregiver burden; this refers to the perceived strain that caregivers experience when responding to the task load and stressful conditions they assume during the major change in their role.<sup>9</sup> There are four core components in the MSPM: characteristics of the caregiver (socio-demographic, health), primary and secondary stressors (symptoms, ability of care recipients), moderators (social support, self-efficacy), and outcomes (burden, depression). According to this model, outcomes are influenced directly by caregiver characteristics, primary and secondary stressors. Moreover, outcomes are indirectly influenced by moderators, as well as reducing the impact of stressors on outcomes.

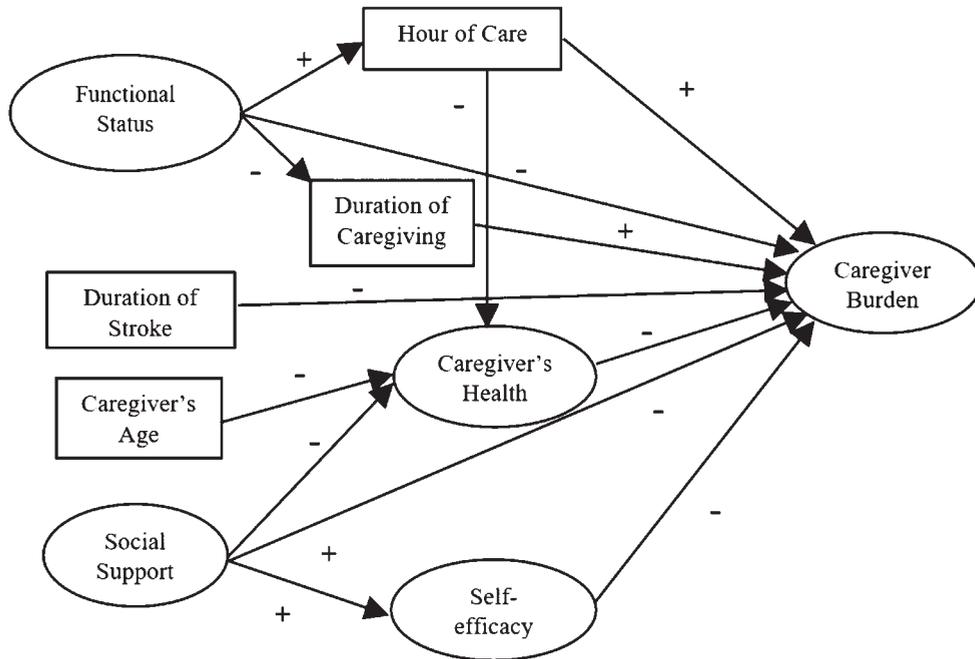
Studies have found the burden of giving care to survivors of stroke has a negative impact on family members that may be preventable. For example, factors that contribute to caregiver burden include caregiver's age, their health, hours of care, duration of caregiving, functional status of survivor, duration of stroke, self-efficacy, and social support.<sup>17-23</sup> The experience of burden is compounded when the survivor has a low functional status<sup>15</sup> that requires hours of care and a long duration in providing care.<sup>17</sup> The limited functional abilities of survivors of stroke impact the caregiver's physical and emotional health.<sup>10</sup> Many family caregivers lack time to rest, leading to fatigue and exhaustion.<sup>25</sup> One study<sup>26</sup> showed that 40% of caregivers reported somatic symptoms while attending to their family member. Few people in their social network provided support. But social support has a major impact on caregiver burden.<sup>17,19</sup> Caregivers with stronger social support structures are better prepared to learn new tasks and assume new roles. In addition, older family caregivers have more difficulty maintaining their health than those who are younger because of the physical and functional health decline that comes from aging.<sup>18,27</sup> Therefore, the age of caregivers can affect burden especially when considering the caregivers' own health status.

The recovery time following a stroke is a difficult period for survivors and family caregivers. The duration of care required post-stroke influences caregiver burden.<sup>22</sup> Caregivers have reported that the level of burden is high in the early stage of care that decreases progressively with post-stroke duration as the person's functional status improves.<sup>21</sup> In addition to the duration of care, self-efficacy is related to burden. Kruithof et al.<sup>19</sup> revealed that caregivers who perceive high self-efficacy have a low level of burden at two months post-stroke, because they set goals for themselves, try to achieve or complete these, and focus constantly on them.

Most studies on caregiver burden have focused on extended time periods following the stroke. According to Coccia and Provinciali,<sup>2</sup> the six months following a stroke occurring is the most highly stressful time period for family caregivers when they face problems associated with functional status and psychological impairment. Consequently, family caregivers need to adapt quickly to their changing role and the survivor's condition. Only two studies have examined family caregiver burden during the first six months.<sup>18,19</sup> The findings from a study of Han et al.<sup>18</sup> showed that most caregivers had higher level of burden at 1-2 days before discharge but at 6-months post-discharge, the level of burden decreased slightly. Likewise, a predictive study conducted by Kruithof et al.<sup>19</sup> revealed that many partners of survivors of stroke had higher burden at 2-months post-stroke.

Another study<sup>16</sup> revealed that at one year after discharge, the majority of caregivers rated burden of taking care as similar to moderate burden. Furthermore, Jaracz, Grabowska-Fudala, Kozubski<sup>28</sup> and Gasemgitvatana<sup>29</sup> developed and tested a causal model of caregiving burden at 6-months post-stroke. However, these two studies did not include self-efficacy, which is a very important factor that might mediate the relationship between stressor and burden.

Therefore, our study developed and tested a causal model of caregiving burden of survivors of stroke. The model was guided by the Modified Stress Process Model<sup>24</sup> and evidence from the literature. In **Figure 1**, the model depicts how the caregiver's age, their health status, functional status of stroke survivor, duration of stroke, number of hours of caregiving, duration of caregiving, self-efficacy, and social support work to influence caregiver's burden of survivors of stroke. It was hypothesized that this model fitted with the empirical data.



**Figure 1** The Hypothesized Model of Caregiving Burden of Survivors of Stroke

## Method

**Design:** A cross-sectional study involving model testing.

**Sample and Setting:** A sample of 200 participants were recruited from the outpatient departments of two hospitals in the Central Region of Thailand. Kline<sup>30</sup> suggests 200 cases for a “typical” medium sample size for studies using structural equation modeling (SEM). Therefore, a convenience sample of 200 caregivers who mainly took care of survivors of stroke was recruited based on the following inclusion criteria: 1) be the primary caregiver, 2) taking care of the person post-stroke for at least one month, 3) > 18 years, 4) close relationship with the survivor (parent, spouse, offspring, or significant other), 5) living with the survivor, and 6) able to communicate in Thai language. The inclusion criteria for survivors of stroke were: 1) diagnosed with first time stroke (both ischemic and hemorrhagic stroke) and 2) being within 1- 6 months period post-stroke.

**Ethical considerations:** Study approval was obtained from the Institutional Review Board (IRB) at Faculty of Nursing, Burapha University (#03-11-2018) and the Committee of Rights for Human Research at the two participating hospitals. The primary investigator (PI) informed participants about the research objectives, procedures, risks, and benefits of the study. Anonymity, confidentiality, and the right to refuse or withdraw were maintained throughout the study and study volunteers were requested to sign a consent form. Data files were kept in a locked cabinet which only the PI and research team could access, and two years after publication, the study data will be destroyed.

**Instruments:** Six self-report instruments were administered to collect participant information. First, we used a demographic questionnaire to record the caregivers’ age, gender, marital status, education, occupation, family income, relationship to stroke survivor, diagnosis of an underlying disease, and number of hours providing care per day. Survivors of stroke information included gender, age, type of

stroke, duration of time since sustaining a stroke, and diagnoses of co-morbidities. The remaining instruments were developed and translated into Thai by other authors, and permission from instrument developers or the Mapi Research Trust organization and/or translators were obtained prior to use them for this study. All instruments were piloted for internal consistency reliability with 30 family caregivers of survivors of stroke, who were not included in the main study.

The *Zarit Burden Interview* (ZBI) measures caregiver burden. Developed in English by Zarit, Reever, and Bach-Peterson<sup>31</sup> and translated to Thai by Toonsiri, Sunsem, and Lawang,<sup>32</sup> the 22-item ZBI has four dimensions: personal strain, privacy conflict, guilt, and attitude of uncertainty. Respondents indicate their choices on a 5-point scale from 0 = never to 4 = nearly always. An example is “Do you feel that your relative asks for more help than he/she needs?” Total burden scores can range from 0 – 88. Higher scores indicate higher burden. Cronbach’s alpha coefficient was .82 for the pilot study and .81 for the main study.

*Health Perception Scale for Thai adults* (HPS-T) measures the caregivers’ perception of their health. Developed by Rojpaisarnkit,<sup>33</sup> the 27-item HPS-T has nine dimensions. For this study, only 18 items with six domains were used to fit the context of caregivers of survivors of stroke in the first six months, including current health, future health, health concern, resistance or susceptibility to illness, health threat, and sickness orientation. An example is “Now, I am healthy”. Participants respond on a 5-point scale. Fourteen positive items are scored from 1 (definitely false) to 5 (definitely true) and four negative items are reverse scored before summation. Total scores range from 18 to 90. Higher scores indicate a higher level of caregiver health. Cronbach’s alpha coefficient was .76 for the pilot study and .77 for the main study.

*The Thai version of the Barthel Index* measures activity of daily living (ADL) of survivors of stroke. Developed in English by Mahoney and Barthel<sup>34</sup> and

translated by the Department of Health, Ministry of Public Health, Thailand, the 10-item index corresponds to the 10 ADL: feeding, bathing, grooming, dressing, bowels, bladder, toilet use, transfers, mobility, and stair. The levels of ability to perform ADL differ for each one, for example, two items are “feeding (0 = unable, 5 = need help, 10 = independent)” and “bathing (0 = dependent, 5 = independent)”. Total scores range from 0–100 scores. Higher scores indicate greater independence of functional status. Cronbach’s alpha coefficient was .94 for the pilot and .89 for the main study.

*General Perceived Self-Efficacy Scale* (GSES) measures family caregivers’ perception of self-efficacy, and was developed in English by Schwarzer and Jerusalem<sup>35</sup> and translated into Thai by Sukmak and Sirisoonthon.<sup>36</sup> The GSES consists of 10 items on a 4-point scale. Each item is scored from 1 (not at all true) to 4 (exactly true). An example is “I can always manage to solve difficult problems if I try hard enough”. Total scores range from 10 to 40. Higher scores indicate higher self-efficacy. Cronbach’s alpha coefficient was .86 for the pilot study and .90 for the main study.

*Revised Multi-Dimensional Scale of Perceived Social Support* measures family caregivers’ social support. The 12-item instrument was originally developed in English by Zimet, Dahlem<sup>37</sup> and translated into Thai by Wongpakaran and Wongpakaran.<sup>38</sup> The instrument examines three sources of social support: family members, friends, and significant others. An item example is “My family really tries to help me”. Participants respond on a 7-point scale with 1 (very strongly disagree) to 7 (very strongly agree). Total scores range from 12 to 84. Higher scores indicate higher social support. Cronbach’s alpha coefficient was .88 for the pilot study and .86 for the main study.

**Data collection:** Data were collected February–June 2019. The PI informed directors and staff nurses of the outpatient departments at the two hospitals about the objectives and procedures, and the staff nurses were asked for introductions to both eligible patients

and their caregivers. After informed consent, caregiver participants were asked to complete the questionnaires with the PI in a private area. The survivors of stroke stayed with the staff nurses or another family member for observation and support during the time. While the participants completed the questionnaires, the PI observed for signs of emotional distress or discomfort. If the PI noticed uneasiness, participants were asked if they wanted to stop or rest. Social support was provided as needed. The PI checked for missing data after the participants returned the questionnaires. If they preferred to leave an item blank, the PI would thank them for their participation and end data collection.

**Data analysis:** Descriptive statistics using IBM® SPSS® version 21 used to analyze the data, and structural equation modeling (SEM) was used to evaluate the relationships both direct and indirect effects of caregiver burden using the AMOS® bundled with IBM® SPSS®. The SEM models were assessed using multiple goodness-of-fit indices: Chi-square values (CMIN and CMIN/df), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA).

## Results

**Characteristics of caregivers:** Most caregivers were female (79.5%). The mean age was 44.6 (*SD* =

11.75) years, ranging from 41–60 years old (50.0%) or younger (42%). Less than half (44.0%) of the caregivers were the survivors of stroke’s offspring, but most were married (70.0%). The levels of education showed that caregivers had completed primary school (31.5%), secondary school (26.5%), and technical college diploma (23.5%). The family’s mean income was 25,588 baht/month (approx. \$US818). Fifty-two percent of caregivers reported being healthy, whereas the remaining reported having one or more chronic disease. The average number of hours of caregiving was 7.1 (*SD* = 2.92) hours per day, with a range of 2 – 13 hours. Over half the caregivers (53.5%) spent four to eight hours per day in giving care to the survivors. The average duration of caregiving was 3.3 (*SD* = 1.34) months, ranging from one to six months.

**Characteristics of the survivors of stroke:** Of the total 200 survivors of stroke, over half (58.5%) were male. The average age was 59.2 (*SD* = 12.53) years (range = 23–90). The majority (88.0%) of the survivors had sustained an ischemic stroke. The average time duration since their stroke was 3.4 (*SD* = 1.61) months. Equal numbers of survivors were reported to have hypertension and dyslipidemia (73.0%).

**Description of study variables:** Almost all variables measured in the model were at a moderate level. Only the caregivers’ perceived health was at a high level (Table 1).

**Table 1** Description of study variables (*n* = 200)

Variable	Possible Range	Actual Range	<i>M</i>	<i>SD</i>
Caregiver burden	0–88	3–60	29.9	12.50
Caregiver’s age	20–72	20–72	44.6	11.75
Functional status of patient	0–100	0–90	44.7	22.70
Duration of stroke (month)	1–6	1–6	3.4	1.61
Hours of care	0–24	2–13	7.1	2.92
Duration of caregiving (month)	1–6	1–6	3.3	1.34
Caregiver’s perceived health	18–90	59–84	72.6	5.32
Self-efficacy	10–40	20–40	29.6	4.83
Social support	12–84	37–66	51.0	7.62

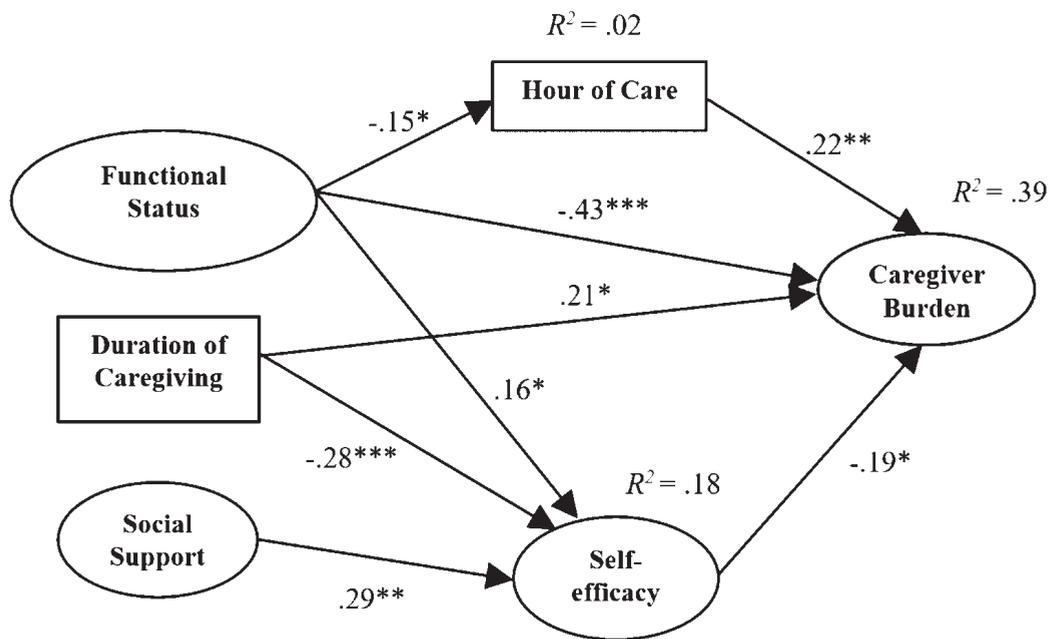
**Assumption testing**

All data were screened prior to SEM analysis. There were no missing data and all interval level data were normally distributed. Multicollinearity was not detected nor were multivariate outliers observed.

**Result of model of testing**

First, measurement models of functional status, caregiver burden, caregiver’s health, self-efficacy, and social support were explored using confirmatory factor analysis (CFA) for construct validity. The results showed that these variables had good construct validity. Then, the hypothesized structure model was evaluated using SEM. The initial results showed that the data did not fit well (CMIN = 379.66,  $df = 162$ ,  $p < .001$ ,

CMIN/  $df = 2.34$ , GFI = 0.86, AGFI = 0.82, CFI = 0.80, and RMSEA = 0.08). Therefore, model modification was undertaken by considering the conceptual and modification indices. Model trimming was cut serially by assessing low standardized factor loadings and non-significant parameters. Two parameters were added based on modification indices, including the path from the stroke survivor’s functional status to self-efficacy and the path from duration of caregiving to self-efficacy. The final model (Figure 2) yielded satisfactory goodness of fit indices (CMIN = 99.0,  $df = 84$ ,  $p = .13$ , CMIN/  $df = 1.18$ , GFI = 0.94, AGFI = 0.91, CFI = 0.98, and RMSEA = 0.03).



\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Figure 2: The Final Model of Caregiving Burden of Survivors of stroke

Table 2 shows the direct effects that four variables had on caregiver burden: functional status ( $\beta = -.43$ ,  $p < .05$ ), duration of caregiving ( $\beta = .21$ ,  $p < .05$ ), number of hours of care ( $\beta = .22$ ,  $p < .05$ ), and self-efficacy ( $\beta = -.19$ ,  $p < .05$ ). The functional status had

the strongest effect on caregiver burden ( $\beta = -.49$ ,  $p < .05$ ). Self-efficacy was also a mediating variable for functional status and duration of caregiving, whereas the number of hours of care mediated the relationship between functional status and caregiver burden.

**Table 2** Effects of Variables in the Final Model of Caregiving Burden of Survivors of stroke

Variable	Hours of Care			Self-efficacy			Caregiver Burden		
	DE	IE	TE	DE	IE	TE	DE	IE	TE
Functional status	-.15*	-	-.15*	.16*	-	.16*	-.43***	-.06*	-.49***
Duration of caregiving	-	-	-	-.28***	-	-.28***	.21*	-.05*	.16*
Hours of care	-	-	-	-	-	-	.22**	-	.22**
Social support	-	-	-	.29**	-	.29*	-	-	-
Self-efficacy	-	-	-	-	-	-	-.19*	-	-.19*

Note. DE = Direct effect, IE = Indirect effect, TE = Total effect

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

In summary, the final model of caregiving burden of survivors of stroke indicated that functional status had direct and indirect effects on caregiver burden through the number of hours of care and self-efficacy. The duration of caregiving had direct and indirect effects through self-efficacy, whereas social support affected caregiver burden only through self-efficacy. Both the number of hours of care and self-efficacy had a direct effect on caregiver burden. The final model explained 39% of the variance in caregiver burden. It should be noted that the caregiver’s age, duration of stroke, and social support did not have any direct effect on caregiver burden.

### Discussion

The final model of caregiving burden of survivors of stroke indicated that functional status had both direct and indirect effect on caregiver burden through hour of care and self-efficacy. Also, duration of caregiving had both direct and indirect effect through self-efficacy, whereas social support affected the caregiver burden only through self-efficacy. Both hours of care and self-efficacy had direct effect on caregiver burden. The final model explained 39% of the variances in caregiver burden. However, caregiver’s age, duration of stroke, and social support did not have direct effects on caregiver burden. The findings partially support the Modified Stress Process Model in that the relationship between the stressors associated with taking care for survivors of stroke (number of hours of care and duration of caregiving, functional status of survivors of stroke) and the outcome

(caregiver burden) is mediated by a moderator (self-efficacy).

The functional status of survivors of stroke has a direct effect on family caregiver burden. Following a stroke, the survivors are disabled and need assistance. Family caregivers take on the physically difficult tasks to improve the survivors’ functioning, such as assisting with mobility, walking, and rehabilitation. It can be concluded that the assumption of responsibilities in caring for family members with a low functional status following a stroke affects the level of caregiver burden. This has been reported in other studies as well that caregivers had severe burden when caring for survivors of stroke who have lower functional status.<sup>18,23</sup> Not only does carrying out the activities of care tax caregivers, but also learning what to do and how to give appropriate care challenge the inexperienced family caregiver. Caregivers require time to identify and acquire the skills necessary to care for family members who have survived a stroke. The result revealed that caregivers averaged over seven hours a day in providing care. Other studies of family caregivers have reported that not only is low functional status related to experiencing a high level of burden<sup>15,23</sup> but also the number of hours associated with performing their responsibilities is linked to that burden.<sup>18</sup> The number of hours required to give care can be the main factor that influences caregivers’ burden,<sup>21</sup> especially after the initial hospital discharge when survivors of stroke require constant attention. This can quickly induce tiredness, exhaustion, and caregiver burnout.<sup>25</sup>

This study also revealed that the functional status of survivors of stroke also indirectly influences family caregiver burden through self-efficacy. It is possible that some family members caring for survivors with low functional status are uniquely challenged by the situation and put more positive effort into their responsibilities, thus reinforcing their self-efficacy that, in turn, partially ameliorates the burden. On the other hand, some caregivers of survivors of stroke who have high levels of independence may experience an increase in their self-efficacy, but also feel a burden in managing the necessary tasks.

The duration of caregiving has both direct and indirect effects on caregiver burden. When family members engage in caregiving over an extended period of time, the level of burden increases. Personal time to take care of life needs and time to participate in their own social activities are lacking. The duration of caregiving has been associated with caregiver burden elsewhere.<sup>17</sup> Although the first phase following the stroke survivor's hospital discharge requires an immediate life adjustment for the caregivers, we found that, after three months as the average duration of caring, family caregivers experience burden.

We further found that the duration of caregiving had a negative direct effect on caregivers' self-efficacy. This differs from a study in which researchers reported that the duration of caregiving had a positive direct effect on caregivers' self-efficacy.<sup>39</sup> Our results show that caregivers were sons or daughters of the survivor and most caregivers were married; no doubt they had other family and financial obligations to meet. The rehabilitative and recovery phase is slow and difficult, and most survivors of stroke have spasticity in their upper/lower limbs with possible joint stiffness.<sup>40</sup> We measured caregiver burden within six months following the survivors of stroke, which was probably insufficient time for the inexperienced caregivers to appreciate the noticeable accomplishments of their caregiving.

Self-efficacy among caregivers has negative direct effect on caregiver burden. Similarly, in a study

of survivors of stroke in the Netherlands, Kruithof et al.<sup>19</sup> found that caregiver' self-efficacy had a negative impact on level of caregiver burden. In this study, because most caregivers were Thai and offspring of the survivors, they may have made an extra effort to assist with the recovery and maintenance of their parent's health. Caregivers with high self-efficacy place high expectations on themselves, have a set of positive beliefs, put more effort into their responsibilities, and endure longer than those with low self-efficacy.<sup>19</sup> With these personal attributes and self-beliefs, caregivers recognize that they can handle the family situation, thus having lower perceived burden.

Surprisingly, our findings demonstrated that social support did not have a direct effect on caregiver burden, but does have an indirect effect through self-efficacy. Thai family caregivers might perceive that they could find social support from family members, friends, or significant others. In Thai society, family members show respect and gratitude to older people. When parents or older family members sustain a stroke, it will be the family's central concern. The family member who assumes the role of caregiver will receive social support from other members, possibly boosting the caregiver's self-efficacy.

## **Limitations**

Because the convenience sample were from just two hospital outpatient departments in Central Thailand this limits the ability to generalize the results to the entire Thai population. In this study, we used an instrument developed in Western societies that focuses on subjective burden. The level of burden among caregiver in the Thai context was found to be both subjective and objective. The instrument of caregiver burden we used might not measure all aspects of caregiver burden relevant the Thai context, thus possibly affecting the study's results. The development of a new tool for measuring caregiver burden in Thai context should be considered. Due to the cross-sectional design

of this study causal inference should be interpreted cautiously. Conducting longitudinal research using random selection in multiple settings would strengthen the ability to generalize the results and confirm the Model of Caregiving Burden of Survivors of Stroke.

## Conclusions and Implications for Nursing Practice

The functional status of survivors of stroke is the strongest factor that influences family caregiver burden within the first six months of caregiving. Self-efficacy of caregivers and the number of hours of caregiving affect caregiver burden. Nurses and health care professionals need to evaluate the multiple factors associated with burden of family caregivers before hospital discharge, including the patient's functional status, ability of the caregiver to physically work with the survivor, and self-efficacy. Nurses may assess self-efficacy by observing caregiver behaviors, having them give repeated return demonstrations, and rewarding them with constructive and positive feedback. Developing and using service application might be considered for families to use after patient discharge, such as nurses partnering with multidisciplinary team to develop online sites or mobile apps that families may access for current evidence and practical tips for reducing caregiver burden. Moreover, giving family members information on community or online support groups may provide a resource to enhance their self-efficacy.

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## Factors Influencing the Burden of Family Caregiving for Survivors of Stroke

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# ปัจจัยที่มีอิทธิพลต่อการรับรู้การเป็นภาระของผู้ดูแลในครอบครัวผู้ที่เป็นโรคหลอดเลือดสมอง

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**บทคัดย่อ:** ผู้ดูแลในครอบครัวมีบทบาทสำคัญในการให้การดูแลผู้ที่เป็นโรคหลอดเลือดสมองในทุกด้าน การรับรู้การเป็นภาระเป็นสิ่งที่เกิดขึ้นได้ในผู้ดูแลในครอบครัวซึ่งเกิดจากความยากลำบากในการปรับตัวให้เข้ากับบทบาทหน้าที่และความรับผิดชอบใหม่ การวิจัยแบบตัดขวางครั้งนี้มีวัตถุประสงค์เพื่อทดสอบแบบจำลองเชิงสาเหตุเกี่ยวกับปัจจัยที่มีอิทธิพลต่อการรับรู้การเป็นภาระของผู้ดูแลในครอบครัวในการดูแลผู้ที่เป็นโรคหลอดเลือดสมองในช่วงหกเดือนแรกหลังเกิดโรคหลอดเลือดสมอง กลุ่มตัวอย่างคือ ผู้ดูแลในครอบครัวของผู้ที่เป็นโรคหลอดเลือดสมองที่มารับบริการจากโรงพยาบาลเขตภาคกลางจำนวน 200 คน เครื่องมือที่ใช้ในการวิจัย ได้แก่ แบบสอบถามข้อมูลของผู้ดูแลในครอบครัวและผู้ที่เป็นโรคหลอดเลือดสมอง แบบสัมภาษณ์การรับรู้การเป็นภาระของซาริท แบบวัดการรับรู้ภาวะสุขภาพ ดัชนีบาร์เธล การรับรู้สมรรถนะตนเอง ความรู้สึกหลากหลายมิติเกี่ยวกับความช่วยเหลือทางสังคม (ฉบับปรับปรุง) วิเคราะห์ข้อมูลโดยใช้สถิติพรรณนาและการวิเคราะห์โหมเดลสมการโครงสร้าง

ผลการศึกษา พบว่า แบบจำลองเชิงสาเหตุของการรับรู้การเป็นภาระของผู้ดูแลในครอบครัว ประกอบด้วย การทำหน้าที่ของร่างกายของผู้ป่วย ระยะเวลาในการดูแล การรับรู้สมรรถนะแห่งตนของผู้ดูแล และจำนวนชั่วโมงที่ใช้ในการดูแล ซึ่งสามารถทำนายความความแปรปรวนได้ร้อยละ 39 นอกจากนี้ยังพบว่า การทำหน้าที่ของร่างกายของผู้ป่วยและระยะเวลาในการดูแลมีผลทั้งทางตรงและทางอ้อมต่อการรับรู้การเป็นภาระของผู้ดูแลในครอบครัว รวมทั้งพบว่าชั่วโมงที่ใช้ในการดูแลเป็นตัวแปรคั่นกลางระหว่างการทำหน้าที่ของร่างกายของผู้ป่วยและการรับรู้การเป็นภาระของผู้ดูแลในครอบครัว ขณะที่การรับรู้สมรรถนะแห่งตนเป็นตัวแปรคั่นกลางทั้งของการทำหน้าที่ของร่างกายของผู้ป่วยและระยะเวลาในการดูแลต่อการรับรู้การเป็นภาระของผู้ดูแลในครอบครัว การประเมินการรับรู้การเป็นภาระของผู้ดูแลก่อนจำหน่ายผู้ป่วยออกจากโรงพยาบาลเป็นสิ่งจำเป็นอย่างยิ่ง ทั้งนี้พยาบาลควรพิจารณาการนำนวัตกรรมมาให้บริการมาใช้ในการดูแล เช่น การร่วมมือกับสหสาขาวิชาชีพในการพัฒนาข้อมูลด้านสุขภาพทางแอปพลิเคชันออนไลน์หรือทางโทรศัพท์มือถือเพื่อให้สมาชิกในครอบครัวสามารถเข้าถึงข้อมูลที่เกี่ยวข้องกับการดูแลที่เป็นปัจจุบัน แนวปฏิบัติในการลดการเป็นภาระของผู้ดูแลรวมถึงวิธีการส่งเสริมการรับรู้สมรรถนะแห่งตนของผู้ดูแลผ่านกลุ่มสนับสนุนเสมือนจริง

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**คำสำคัญ:** การรับรู้การเป็นภาระ; ผู้ดูแลในครอบครัว; การทำหน้าที่ของร่างกาย; การรับรู้สมรรถนะแห่งตน; ผู้ที่เป็นโรคหลอดเลือดสมอง

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