Predicting Factors of Care Burden Among Caregivers of Assault Victims of the Unrest in Southern Border Provinces of Thailand

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The insurgencies in southern Thailand have occurred since 2004 in the provinces of Pattani, Yala, Narathiwat, and 4 districts of Songkhla province. The disturbance has resulted in 9411 injuries and 4018 deaths between 2004 and 2011. The unrest has affected not only the individuals but also their families, the society, and the country. The injured victims, though discharged from the hospital, remained with some level of disabilities, psychological and/or emotional disturbances that required continuing rehabilitation for themselves and also for the family members caring for them. Therefore, family members often became the primary source of assistance for various daily activities, such as personal care and transportation. However, most caregivers entered this new role without any formal preparation or training, and as a result they encountered a host of problems including role overload, lack of care information or knowledge, financial strain, impaired quality of life, changes in health status, and depression. These negative constraints made caregiving become burdening to the family caregivers.

Previous studies showed that several factors influence caregiving burden. Impairment in performing activities of daily living or instrumental activities of daily living, the number of hours of giving care, use of coping strategies, co-residence, spousal status, and caregiver sex were significant predictive factors of caregiver burden with patients with dementia. Another study found that social integration, social support, and negative social interactions were significant independent predictors of caregiver burden of patients with spinal cord injury. Resilience was a significant factor negatively related to caregiver burden, but it was not significantly related to their relatives’ severity of traumatic brain injury or spinal cord injury. It was found that amount of time giving care was associated with care burden. On the basis of the literature review, there were both positive and negative factors associated with caregiver burden among caregivers of individuals with chronic illness; however, some factors were not conclusive in different types of chronic illness. Currently, there is no known evidence to show what predictive factors of care burden are involved among caregivers of assault victims of unrest situations in southern border provinces of Thailand. Therefore, the purpose of this study was to investigate these predictive factors.

PURPOSE
To investigate predictive factors of caregiver burden among caregivers of assault victims of the unrest situations in southern border provinces of Thailand.

METHODS
Sample and Setting
This study was approved by the ethics committee of the Faculty of Nursing, Prince of Songkla University. An informed consent was obtained by the subjects who cared for the victims suffering from unrest situations in Naratiwat, Yala, Pattani, and 4 border districts of Songkhla province. One hundred caregivers who experienced in caring for the victim for at least 1 year and also being a primary caregiver were eligible for inclusion in this study. These eligibility criteria were set to obtain the caregiving burden during the period of unrest situations on a daily basis. Sample size was calculated on the basis of Thorndike’s formula.

Measurements
Caregiver burden was measured by the self-report questionnaire of the Oberst Caregiving Burden Scale (OCBS). The Thai version of this questionnaire was translated by Kasamkitvattana. The OCBS is composed of 2 dimensions—amount of time giving care (demand scale) and difficulty of performing care. Each item is scored on a 5-point response scale, ranging from 1 (no time or not difficult) to 5 (great deal of time or extremely difficult). These negative constrains made caregiving become burdening to the family caregivers.

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and increasing housework). The possible range of scores for the OCBS is 15 to 75. The higher scores indicate the higher caregiving burden. Content and construct validity of the OCBS were reported in patients with cancer and stroke.\textsuperscript{11,13,14} Internal consistency reliability using the Cronbach $\alpha$ was reported as .92 in heart failure patients\textsuperscript{15} and stroke family caregivers.\textsuperscript{13} In this study, the Cronbach $\alpha$ of the OCBS was .96 when testing with 20 family caregivers, who had similar characteristics with this study sample.

The daily living activities of the victims were measured by the Barthel Index, which was translated into Thai by Jittapankung.\textsuperscript{16} The Barthel Index is composed of 10 activities of daily living. The higher score indicates more independence of the victims than the lower score. The test-retest correlation coefficient reliability of the Barthel Index in this study was .99.

Health status of the caregivers was indicated by 2 categories of having or not having history of illnesses. Caregiving support was indicated by having or not having secondary caregiver to aid the primary caregiver in caring for the victim. Amount of time giving care was measured in terms of month(s) that the caregivers spent with the victims. All of these 3 variables were assessed in the Demographic Data Questionnaire.

**Procedure**

Once approval was granted to conduct this study, victim folders at hospitals and community centers were reviewed to obtain names for recruitment. Once the names from each community were identified, all potential family caregivers who could serve as subjects were approached and asked for participation by phone call. After that, each of the subjects was visited at home where they were asked to self-report the questionnaire and all questionnaires were checked for the completion by the researchers.

**Data Analysis**

SPSS (11.5) for Windows was used for data analysis. Demographic data were analyzed by descriptive statistics. To examine the predictive factors of caregiver burden, multiple regressions were applied after the assumption of normality, linear correlation, and homogeneity of variance were met. Significant level of $\alpha$ less than .05 was considered statistically significant.

**RESULTS**

**Demographic Data of the Victims**

Most of the victims were male (81.0%), with the mean age of 44.10 years (standard deviation [SD] = 11.47 years). Forty percent of them lived in Narathiwat province and two thirds were Muslim (67.0%) and married (65.0%). The majority of education was elementary level (55.0%) and 39% was unemployed. About half (59%) of the victims were wounded by gunshot that caused spinal cord injury, and nearly half of the victims were diagnosed with paraplegia. Although the average time the victims sustained injuries was 3.34 years (SD = 2.34 years), most of them (71%) were able to perform activities of daily living on wheelchairs.

**Demographic Data of the Caregivers**

Forty percent of the caregivers lived in Narathiwat province. The majority of them were women (83%), married (75%), and Muslim (66%), with the average age of 43.40 years (SD = 11.47 years). Forty-five percent of the caregivers had elementary level of education. Approximately, one third of the caregivers were employed and reported that they did not earn enough income. Most of them (80%) indicated no history of any illness. The average length of caring for the victims was 3.07 years (SD = 2.66 years). Only 43% of the caregivers indicated having no secondary caregiver to help them in caring for the victims. The most time-consuming (mean = 3.02; SD = 0.97) and difficult tasks (mean = 2.49; SD = 1.12) perceived by the caregivers was interpersonal care in which the item of emotional support was the most time-consuming task (mean = 3.27; SD = 1.25) and the item of providing transportation for doctor visit (mean = 2.72; SD = 1.40) was the most difficult task.

**Predictors of Caregiver Burden**

After the assumptions were met, 4 blocks of variables were entered into the regression model. The first block contained the victims’ capability to perform activities of daily living, the second block contained amount of time giving care, the third block contained health status of the caregiver, and the fourth block contained having secondary caregiver.

Table 1 displays the summary findings of the general linear model and the multiple regressions analyses. It was revealed that the total $R^2$ accounted for by the victims’ capability to perform activities of daily living in block 1 was 5.3%. The addition of the amount of time giving care to the model increased the variance explained in caregiver burden to 5.6%, a change of only 0.3%. The addition of having secondary caregiver increased the variance by 4.5%, increasing the total variance to 10.1%, a change of 4.5%. The addition of health status of the caregiver variable in block 4 of the model increased a change of variance explained in caregiver burden by 0.2%. The combination of all independent variables explains the total of 10.3% of variance in the caregiver burden. However, the victims’ capability to perform activities of daily living ($\beta = -.24$; $P = .01$) and having the secondary caregiver ($\beta = -.21$; $P = .03$) were significant predictors of caregiver burden (Table 2).
DISCUSSION

This study indicated that victims’ capability to perform activities of daily living and having secondary caregiver were significant predictors of caregiver burden of assault victims of the unrest situation in southern border provinces of Thailand. Both variables were accounted for 21% to 24% of variance of the outcome. Several explanations are discussed in the following sections.

The victims’ capability to perform activities of daily living has been proposed to be negatively correlated to caregiver burden. Impairment of activities of daily living or instrumental activities of daily living was a significant predictor of caregiver burden of an individual with dementia. This means that the more independent the patients are in performing activities of daily living, the lower the perception of caregivers’ burden will be. In this study, 71% of the victims had independently performed activities of daily living on wheelchair; thus, this variable was negatively related to caregiver burden. This finding was similar to previous study of caregiver burden of patients with mild dementia. Another study also found that the ability of the patients with spinal cord injury to independently perform activities of daily living was negatively associated with caregiver burden.

Received social support was a significant independent predictor of caregiver burden. Having secondary caregiver in this study was viewed as social support at the family level. The role of primary caregivers to provide care, including direct, interpersonal, and general care over a period of time, could result in physical stress, fatigue, psychological stress, and less leisure time. Having another person to help with the caring of the victims could reduce the caregiver burden. Previous study showed that having secondary caregiver was accounted for 37.6% of variance of caregiver burden of patients with cardiovascular accident. However, in this study, having the secondary caregiver accounted for 4.5% of variance explained in caregiver burden. This percentage may have been lower than in the previous study that would explain by different subjects and different questionnaires to measure caregiver burden.

Both the amount of time giving care and the health status of caregivers were not significant predictors of caregiver burden in this study. Because most of the victims (71%) performed activities of daily living by their own on the wheelchairs, caregivers spent less time caring for the victims. Additional data revealed that most of the caregivers (80%) indicated that they did not have history of any illness, they did not have any physical health problems that would interfere with their caregiving tasks. Therefore, both of these 2 variables were not significant predictors of caregiver burden in this study.

| TABLE 1 | Predictors of Caregiver Burden in Caregivers of Assault Victims of Unrest Situations in Southern Provinces of Thailand |
| Variables | R | R² | Adjusted R² | R² Change | F | P |
| 1. The victims’ capability to perform activity of daily living | 0.23 | 0.053 | 0.044 | 0.053 | 5.53 | .02 |
| 2. The victims’ capability to perform activity of daily living and amount of time giving care | 0.238 | 0.057 | 0.037 | 0.003 | 2.92 | .06 |
| 3. The victims’ capability to perform activity of daily living, amount of time giving care, and having secondary caregiver | 0.32 | 0.102 | 0.074 | 0.045 | 3.64 | .02 |
| 4. The victims’ capability to perform activity of daily living, amount of time giving care, having secondary caregiver, and health status of the caregiver | 0.322 | 0.104 | 0.066 | 0.002 | 2.75 | .03 |

| TABLE 2 | Each Predictor of Caregiver Burden of Assault Victims of Unrest Situations in Southern Provinces of Thailand |
| Predictors | b | β | t | P |
| 1. The victims’ capability to perform activity of daily living | −0.54 | −.24 | −2.49 | .01 |
| 2. Amount of time giving care | 0.02 | .03 | 0.32 | .75 |
| 3. Having secondary caregiver | −5.63 | −.21 | −2.16 | .03 |
| 4. Health status of the caregiver | 1.37 | .04 | 0.42 | .68 |
Limitations
The sample of this study consisted of family caregivers of victims in and around 3 southern Thai border provinces, which may not be general sample to other cultures and populations. However, the findings in this study could be used to identify predictors of burden of caregivers who experience similar situations of the political unrest.

CONCLUSIONS
The victims’ capability to perform daily living activities, amount of time giving care, having secondary caregiver, and health status of the caregiver were significantly accounted for 10.3% of the variance of the caregiving burden. The victims’ capability to perform daily living activities (P = .01) and having secondary caregiver (P = .03) were negatively significant predictors of caregiver burden. Therefore, nurses are recommended to design interventions or strategies to reduce burden among family caregivers as well as enhance victims’ capability to function more independently after being assaulted during the unrest.

Implications and Recommendations
The results support the idea that the victims’ capability of daily living and having secondary caregiver are significant predictors of caregiver burden of assault victims of the unrest in the southern Thai border provinces. It is important for nurses to provide advice to family members to prepare caregivers, both primary and secondary caregivers. In addition, nurses are recommended to design interventions or strategies to promote the activities of daily living of the victims to reduce caregiver burden. Promoting emotional support interventions and providing information of communities’ resources for tasks that are outside nursing practice are also recommended to reduce caregiver burden. Additional research is needed with large sample sizes with additional predicted variables incorporated into the model to measure more accounted percentage of variance of caregiver burden.

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REFERENCES
AUTHOR QUERIES

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