

## CHAPTER 4

### FINDINGS AND DISCUSSION

This descriptive correlational study was to describe family social support and self-care ability, and to determine the relationship between family social support and self-care ability among stroke survivors. The findings from this study and the discussion regarding the findings are presented in this chapter.

#### **Findings**

The descriptive findings of the demographic data are presented first, followed by the descriptive findings related to family social support and self-care ability. Finally, the relationship between family social support and self-care ability of the subjects will be shown.

**Part I Demographic data**

Sixty stroke survivors were selected as subjects for this study. These sixty subjects were divided into groups of age, gender, marital status, family structure, educational level, occupation, family income, way of medical payment, presence of underlying illness, duration of post-stroke, level of disability, and present treatment. The detailed demographic characteristics of the subjects are presented in Table 3 to Table 5.

Table 3

Frequency and percentage of subjects grouped by age, gender, marital status, and family structure

Variables	Frequency (N=60)	Percentage (%)
Age (years old)		
( $\bar{X}$ = 66.48, SD = 7.99)		
35-44	1	1.67
45-54	6	10.00
55-64	11	18.33
65-74	34	56.67
75-81	8	13.33
Gender		
Male	35	58.33
Female	25	41.67
Marital status		
Married	53	88.33
Widowed	7	11.67
Family structure		
Living with children	42	70.00
Living without children	18	30.00

Table 3 showed that the ages of the subjects ranged from 43 to 81 years with a mean age of 66.48 years (SD  $\pm$  7.99). Thirty-five subjects (58.33%) were male. The majority of subjects (88.33%) had spouses. Forty-two subjects (70.00%) lived with their adult children, including all the seven widowed subjects. The other eighteen subjects (30.00%) lived alone with their spouses.

Table 4

Frequency and percentage of subjects grouped by educational level, occupation, average family income, and way of medical payment

Variables	Frequency (N=60)	Percentage (%)
Educational level		
Illiterate	14	23.33
Primary school	12	20.00
Middle school	16	26.67
Senior high school	10	16.67
Diploma/Associate	3	5.00
Undergraduate	5	8.33
Occupation		
Retired	46	76.67
Employed	14	23.33
Government service	3	5.00
Teacher	2	3.33
Worker	5	8.33
Business person	2	3.33
Health personnel	2	3.33
Average family income (Yuan/person/month)		
<250	1	1.67
250-500	26	43.33
501-800	17	28.33
>800	16	26.67
Way of medical payment		
Partial reimbursed	50	83.33
Total self-paid	10	16.67

Table 4 showed that the educational level ranged from illiterate to undergraduate. Thirty-four subjects (56.67%) had at least a middle school education. Forty-six subjects (76.67%) were retired. Twenty-six subjects (43.33%) reported the average family income was 250-500 Yuan/person/month. There were fifty subjects (83.33%) receiving partial reimbursed medical payment. The other ten (16.67%) paid for themselves.

Table 5

Frequency and percentage of subjects grouped by presence of underlying diseases, level of disability, duration of post-stroke, and present treatment

Variables	Frequency (N=60)	Percentage (%)	
Presence of underlying diseases			
No	2	3.33	
Yes	58	96.67	
Types of underlying diseases			
HT	46	76.67	
DM	1	1.67	
HT+DM	8	13.33	
COPD	2	3.33	
GI ulcer	1	1.67	
Duration of post-stroke			
<8 weeks	5	8.33	
8-11 weeks	14	23.33	
12-25 weeks	20	33.33	
26-52 week	21	35.00	
Level of disability			
Mild	31	51.67	
Moderate	29	48.33	
Present Treatment			
Medicine	Yes	58	96.67
	No	2	3.33
Acupuncture	Yes	13	21.67
	No	47	78.33
Rehabilitation exercises		60	100.00

From Table 5, most of the subjects (96.67%) reported that they had some underlying diseases. The majority of subjects (76.67%) were affected with hypertension. Thirty-one subjects (51.67%) disclosed mild disability. Twenty subjects (33.33%) were in the 3 to 6 months duration after their onset of stroke and twenty-one subjects (35.00%) were in the 6 to 12 months duration. For present treatment, only two subjects didn't take medication (3.33%). Thirteen subjects (21.67%) received acupuncture therapy. All the sixty subjects reported that they took part in rehabilitative exercises.



### Part II. Family social support

The descriptive statistics of scores of family social support were carried out. Mean and standard deviation of family social support were calculated. Table 6 to Table 7 showed the results related to family social support as perceived by the subjects.

**Table 6**

**Possible score, range, mean and standard deviation of family social support**

Variable	Possible score	Range of score	$\bar{X}$ (N=60)	SD
Family social support	20	8-18	15.13	2.13

Table 6 showed that the subjects had a total score of family social support ranging from 8-18 with a mean score of 15.13 (SD  $\pm$  2.13).

**Table 7**

**Frequency and percentage for the amount of family social support**

Amount of family social support	Frequency (N=60)	Percentage (%)
Moderate (7-13)	12	20.00
High (14-20)	48	80.00

From Table 7, forty-eight subjects (80.00%) disclosed that the amount of family social support was at a high level. The other twelve subjects (20.00%) perceived a moderate level of the amount of family social support.

### Part III Self-care ability of stroke survivors

Mean and standard deviation of self-care ability were calculated. The results of the statistical analysis was shown in the Table 8 to Table 9.

**Table 8**

**Possible score, range, mean and standard deviation of self-care ability score**

Variables	Possible score	Range of score	$\bar{X}$ (N=60)	SD
Total self-care ability	22	10-21	17.38	2.07
Knowledge	6	1-6	4.42	1.12
Decision-making	7	4-7	6.68	.57
Productive operation	9	4-9	6.28	1.17

Table 8 presented the total and subpart scores of self-care ability of the subjects. The total score of self-care ability ranged from 10 to 21 with a mean score of 17.38 (SD  $\pm$  2.07). The score of knowledge ranged from 1 to 6 with a mean score of 4.42 (SD  $\pm$  1.12). The score of decision-making ranged from 4 to 7 with a mean score of 6.68 (SD  $\pm$  .57). The score of productive operation ranged from 4 to 9 with a mean score of 6.28 (SD  $\pm$  1.17).

**Table 9****Frequency and percentage for the amount of self-care ability**

Variables	Low	Moderate	High
Total self-care ability	----	4 ( 6.67%)	56 (93.33%)
Knowledge	1 (1.67%)	30 (50.00%)	29 (48.33%)
Decision-making	----	1 ( 1.67%)	59 (98.33%)
Productive operation	----	35 (58.33%)	25 (41.67%)

From Table 9, it can be seen that most of the subjects (93.33%) presented a high level of total self-care ability. When considering the subpart of knowledge, thirty subjects (50.00%) had a moderate level and twenty subjects had a high level. For the decision-making subpart, most of the subjects (98.33%) had a high level. For the subpart of productive operation, thirty-five subjects (58.33%) had a moderate level, and twenty-five subjects (41.67%) had a high level.

**Part IV Relationship between family social support and self-care ability**

Spearman's rank-order correlational analysis was undertaken to analyze the relationship between family social support and self-care ability among the subjects. Before the correlation coefficients were computed, asymmetrical distribution of the data was found. The relationships between family social support and total self-care ability and its subparts defined by Spearman's rank-order correlation coefficients ( $r_s$ ) was presented in Table 10.

**Table 10** Relationship between family social support and self-care ability

Self-care ability	Spearman's rank-order correlation coefficient ( $r_s$ )
	Family social support (N=60)
Total self-care ability	.34**
Knowledge	.12
Decision-making	.18
Productive operation	.44**

\*\*  $p < 0.01$

From Table 10, it was indicated that family social support correlated significantly and positively with total self-care ability ( $r_s = .34, p < .01$ ). Family social support also correlated significantly and positively with the ability of productive operation ( $r_s = .44, p < .01$ ). Neither knowledge nor decision-making was significantly correlated with family social support.

## **Discussion**

In this section, the findings from the study are discussed. The data was organized into four parts according to the research objectives and hypothesis of this study.

### **Demographic data**

As shown in Table 3, the age of the subjects in this study ranged from 43 to 81 years with a mean age of 66.48 years (SD  $\pm$  7.99). A great number of the subjects (56.67%) were in the age group of 65-74 years old. More than fifty-eight percent of the subjects were male. These were consistent with the age distribution and the gender tendency of the strokes. As Sacco et al (1997) mentioned, age is the single most important risk factor for strokes and the stroke rate more than doubles for each successive ten years after age 55. Cheng et al (1991) reported that 57.67% of the subjects were male in the study on stroke incidence in China.

In the present study, more than eighty-eight percent of the subjects were married and seventy percent of the subjects lived with their adult children. This is consistent with the family structure of Chinese elderly as Jia (1997) reported that 70% of Chinese elderly lived within the extended family. According to the study of Cantor (1991), spouses were far more likely to be the primary caregivers, with children predominant as secondary

caregivers. In this study, the most frequently reported family members were spouses with the percentage of 88.33% and children with the percentage of 70% (Table 3).

The majority of the subjects (76.67%) were retired (Table 4). More than eighty-three percent of the subjects received partial reimbursed medical payment and nearly forty-three percent of the subjects had an average family income of 250-500 Yuan/person/month. Therefore, the economic status of the subjects in this study was at an average level according to the report of the Statistics Information Center of the National Health Ministry (1998).

Most of the subjects (96.67%) reported that they had some underlying diseases (Table 5). In this study, these underlying diseases included hypertension, diabetes mellitus, COPD and gastrointestinal ulcer. The majority of them (76.67%) were affected with hypertension. Twenty and twenty-one subjects were in the poststroke duration of 12 to 25 weeks (33.33%) and 26 to 52 weeks (35.00%) after their respectively. The subjects remaining report either mild disability (51.67%) or moderate disability (48.33%) and reported that physical disability influenced their daily life activities. For present treatment, most of the subjects (96.67%) took medication to prevent recurrent strokes attack except for two subjects, who could not afford the high payment of the medicine, and didn't take medication as ordered (3.33%). Besides taking medication as



ordered, thirteen subjects (21.67%) received acupuncture therapy, which was thought helpful for recovering from strokes in Chinese traditional medicine. All sixty subjects reported that they took part in rehabilitative exercises.

#### **Family social support perceived by stroke survivors**

The results of family social support ( $\bar{X} = 15.13$ ,  $SD = 2.13$ ) was presented in Table 6. 80.00% of the subjects perceived a high level of family social support (Table 7). The results can be explained as follows.

In this study, the mean age of the subjects was 66.48 years. All the subjects lived with their families (Table 3). In Chinese culture, it is common for the elderly one to live with their families (Cheng et al., 1991). The majority of the subjects (88.33%) had spouses. After having lived together for several decades, the couples had established a close relationship and could confide in each other. The stroke survivors may have felt less embarrassed in asking for and accepting help from their spouses. Based on the close and intimate relationship, the subjects would rely primarily on their spouses (Antonucci, 1985).

The most frequently reported age group was 65-74 years. In Chinese culture, adult children are expected to take the responsibility of supporting and taking care of their old parents, especially when they get sick (Jia, 1997). Seventy percent of the subjects lived with their

adult children (Table 4). The notion of allegiance to parents and the emphasis on filial piety is still a common value in Chinese society. The elderly are highly respected and supported by their family members. So elderly persons often rely heavily on family to fulfil social support needs (Connidis and Davies, 1992).

When faced with chronic disability, families often coalesce (Reiss, Gonzalez & Kramer, 1986). The family members always express much more concern and provide more help for the disabled. With the care, understanding, and help from their spouse and children, the subjects were more likely to feel loved and supported. So the subjects in this study perceived a high level of family social support.

#### **Self-care ability of stroke survivors**

As shown in Table 8, the total self-care ability of stroke survivors ranged from 10 to 21 with a mean score of 17.38 (SD  $\pm$  2.07). Ninety-three percent of the subjects presented a high level of total self-care ability (Table 9). This indicated that most of the subjects were able to carry out therapeutic self-care actions and care of themselves at home. In a prospective, population-based registry of 976 patients with strokes, Wade and Langtom-Hewer (1987) found that the incidence of dependence in ADLs decreased from 58% at one week post-stroke to 9% at six months post-stroke. Considering the disability level of the subjects were mild

to moderate, and the duration after strokes was 12 to 25 weeks (33.33%) and 26 to 52 weeks (35.00%), the subjects became more independent in self-care actions when they were interviewed. All the subjects took part in the rehabilitative exercises. Meanwhile, most of them (97.67%) took their medication as ordered. Besides this treatment, some of them (21.67%) received acupuncture therapy. These measures helped them to improve their general condition, which enabled them to do more self-care actions than before.

Considering the subparts, half of the subjects presented moderate levels of knowledge about post-stroke self-care. The subjects in this study had a MMSE-score of more than 20, which represented good mental status. Nearly fifty-seven percent of the subjects had at least a middle school level of education. They should have the potential for learning. During their stay in the hospital and after they went back home, some of them had learned some information, such as the importance of prevention of recurrent strokes (96.67%), the rehabilitative exercises (95.00%), and the performance of ADLs (75.00%) (Table 12, see Appendix C). Considering the items of the knowledge part, there was knowledge about the effect and side effect of drugs and muscle strength. This knowledge may be too professional and therefore too difficult for them to understand. So only one third of the subjects could explain muscle strength and the importance of evaluating the

progression of muscle strength. Therefore, the findings indicated that the subjects in this study had a moderate level of knowledge about stroke self-care.

Most of the subjects (98.33%) showed a high level of self-care ability in decision-making. Based on the knowledge of post-stroke self-care and progression in the performance of ADLs, the subjects were more likely to judge the conditions of the environment and themselves, and made decisions regarding self-care. The results of further descriptive analysis showed that all the subjects would like to seek help when they were unable to take care of themselves. Most of the subjects (98.33%) showed willingness to find better ways of self care, hopes for recovery, and willingness to modify unhealthy lifestyles. They also decided to do activities (96.67%) and maintain health (91.67%) by themselves (Table 12, see Appendix C).

More than fifty-eight percent of the subjects presented moderate levels of self-care ability in productive operations. Although they presented high levels of decision making for self-care, yet they still lacked knowledge, such as the side-effects of drugs and muscle strength, and had mild or moderated levels of disability, which decreased their energy and capabilities perform some self-care actions. Only five subjects (8.33%) reported that they regularly evaluated the effectiveness of their self-care performance, and thirty-two subjects (53.33%) reported some

abnormal effects to health personnel (Table 12, see Appendix C). Therefore, it was indicated that the subjects in this study had a partial deficit in their self-care actions. This finding implied that some intervention should be made to put more effort on this aspect in order to help the stroke survivors to evaluate their self-care performance. Furthermore, since no subject had a full score on the MASSSA scale, this suggested that some of the subjects might have a partial deficit in their self-care ability.

**Relationship between family social support and the self-care ability of stroke survivors**

According to the hypothesis of this study there is a positive relationship between family social support and self-care ability among stroke survivors, the potential association of these two variables was tested by Spearman's rank-order correlation analysis. As shown in Table 10, there was a moderate and significantly positive relationship ( $r_s = .34, p < .01$ ) between family social support and total self-care ability. The findings indicated that more family social support would create more self-care ability. In other words, when a stroke survivor perceived higher family social support, his/her perception of self-care ability might be higher.

For the subparts, there was a moderate and statistically significant positive relation ( $r_s = .44,$

$p < .01$ ) between family social support and the productive operations aspect of self-care ability. As Evans et al. (1992) mentioned, the available emotional and instrumental support from family members enhances the stroke survivor's ability to cope with the chronic phase of recovery. In the study of 44 stroke survivors watched for six months following the first stroke, the stroke survivors with a high level of emotional support from their family showed dramatic improvement despite having the lowest baseline functional status (Glass & Maddox, 1992).

The correlation was at a moderate level. This result may be interpreted by the concept of basic conditioning factors of self-care ability in Orem's self-care theory. According to Orem (1995), ten basic conditioning factors which can influence one's self-care ability are "age, gender, developmental state, state of health sociocultural orientation, the family system, health care system factors, patterns of living, environmental factors, resource adequacy and availability" (p. 203). Family system is only one of these ten conditioning factors, and family social support is only the functional part of family system. Therefore, the impact of family social support on one's self-care ability is limited. In the study of basic conditioning factors, social support and self-care ability in pregnant woman, Boontab (1991) reported that duration of education, family system and social support

which accounted for 22.4% of the variance. Therefore, the moderate correlation between family social support and self-care ability in the present study can be understood.

The non-significant correlation between family social support and the two aspects of self-care ability, knowledge and decision-making might be the consequence of sample selection. In this study, the majority of the subjects (76.67%) were affected with hypertension. Some basic knowledge such as hypertension as one of the risk factors of strokes can be shared to control hypertension and prevent recurrent strokes. With the experience of self-care for the underlying diseases, the stroke survivors had the chance to learn more information, which was related to strokes and their prognosis. Where the level of disability was mild to moderate, the progression in functional status after their discharge motivated the stroke survivors to engage in self-care. Family members had little effect on knowledge and decision-making regarding self-care. Therefore, the non-significant correlation between family social support and self-care ability was understandable.

Considering the theoretical framework of this study, the concepts of family social support and self-care ability were derived from Orem's self-care theory. The findings of this study seemed to support the validity of Orem's conceptualization of basic conditioning factors related to self-care ability. Furthermore, it is suggested that any

nursing intervention for enhancing family social support would be beneficial to improve self-care ability.

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