

CHAPTER 3

METHODOLOGY

The purpose of this study was (1) to describe the self-care ability of stroke survivors, (2) to describe the family social support perceived by stroke survivors, and (3) to determine the relationship between family social support and the self-care ability of stroke survivors. In this chapter, research design, population and sample, instrumentation, data collection procedure, and methods of data analysis are presented.

Design of the study

A descriptive correlational design was employed to describe self-care ability and family social support, and to determine the relationship between family social support and self-care ability among stroke survivors.

Population and sample

The accessible population consisted of all stroke survivors who attended the Outpatient Department of Neurology in the Huashan Hospital and the Zhongshan Hospital, Shanghai Medical University, during November 1998

And February 1999.

Sixty subjects were recruited for this study using the purposive sampling method based on the following criteria:

1. Stroke survivor with mild or moderate physical disabilities measured by the Barthel Disability Score (see Appendix B).
2. Having good mental status with a score of more than 20 in the Mini Mental State Examination (MMSE) (Folstein, 1975) (see Appendix B).
3. Living with family members for at least one month during the post-stroke period.
4. Be willing to participate in the study.

Instrumentation

The instruments of this study consisted of the Demographic Data Form, the Modified Appraisal of Stroke Self-care Ability (MASSA) Scale and the Modified Perceived Social Support from Family (MPSS-Fa) Scale (see Appendix A). The development of each instrument is presented as follows.

Part I. Demographic Data Form

The Demographic Data Form was designed to measure age, gender, marital status, family structure, educational level, occupation, average family income, way of medical payment, presence of underlying diseases, types of

underlying diseases, level of physical disability, duration of post-stroke, and present treatment.

Part II. Modified Appraisal of Stroke Self-care Ability Scale (MASSA)

The Modified Appraisal of Stroke Self-care Ability (MASSA) Scale was used to measure self-care ability of stroke survivors. The MASSA Scale was modified by the investigator from the English version of the Appraisal of Diabetic Self-care Agency (ADSA) Scale which Huang (1996) modified from the Appraisal of Self-care Agency (ASA) Scale of Evers (1986). Evers (1986) invented the ASA Scale based on Orem's Self-care Deficit Theory. The English version of ADSA Scale was a 22-item, 4-point (1-4) rating scale. Huang (1996) used the Chinese version of the ADSA Scale to measure the self-care ability of Chinese elderly with non-insulin-dependent diabetes mellitus and reported that the Cronbach's alpha value of the scale was .90.

Three components of self-care ability in the MASSA Scale were knowledge (No. 1, 3, 5, 9, 11, 15), decision-making (No. 6, 10, 12, 13, 17, 20, 22), and productive operations (No. 2, 4, 7, 8, 14, 16, 18, 19, 21). The MASSA Scale was a 22-item questionnaire answered in a yes-or-no format. "Yes" for positive items or "No" for negative items were scored as 1; "No" for positive items or "Yes" for negative items were scored as 0. So the possible range of

the total score was 0 to 22. The higher the score, the higher the level of self-care ability, whereas a lower score indicated a lower level of self-care ability. The amount of self-care ability was classified into three equal levels, namely high, moderate and low levels, according to the following criteria:

Table 1

Categories of the MASSA scores

Variables	Range of score	Low	Moderate	High
Total self-care ability	0-22	0-7	8-14	15-22
Knowledge	0-6	0-2	3-4	5-6
Decision-making	0-7	0-2	3-4	5-7
Productive operation	0-9	0-3	4-6	7-9

Part III. Modified Perceived Social Support from Family (MPSS-Fa)

The Perceived Social Support from Family (PSS-Fa) developed by Procidano and Heller (1983) was intended to measure the extent to which an individual believes that his/her needs for support, information and feedback were fulfilled by the family. The original PSS-Fa scale was a 20-item questionnaire with items answered in a "Yes", "No", or "Don't know" format. The test-retest reliability was .83 over a one-month the interval and internal consistency was

high, with a Cronbach alpha of .90 (n=222) (Procidano & Heller, 1983).

The MPSS-Fa Scale was a 20-item questionnaire modified from the Perceived Social Support from Family (PSS-Fa) Scale of Procidano and Heller (1983). Considering the subjects might give more responses of "Don't know", the alternative "Don't know" was taken out of the MPSS-Fa. Therefore, there were two alternatives "Yes" and "No" left in the MPSS-Fa. For each item, the response indicating perceived family social support was scored as 1, the response indicating no perceived family social support was scored as 0. So the total score range of the scale was from 0 to 20 with the higher score indicating more social support from the family. The amount of family social support was classified into three equal levels, namely high, moderate and low levels, according to the following criteria in Table 2:

Table 2

Score of the MPSS-Fa score

Variables	Range of score	Low	Moderate	High
Family support social	0-20	0-6	7-13	14-20

Content validity and reliability of the instruments

Content validity and reliability of the MPSS-Fa Scale and the MASSA Scale were tested before collecting the data.

Content validity of the English version of MASSA Scale was reviewed by a panel of five nursing instructors (see Appendix E) who were experts in the area of Orem's Self-care Theory and the nursing care of stroke survivors, Faculty of Nursing, Chiang Mai University, Thailand. The content validity index (CVI) was .71, which was considered acceptable (Davis, 1992). The instruments were revised according to the suggestions of the experts.

Then, the Chinese versions of the MASSA Scale and the MPSS-Fa Scale were translated from the English versions by the investigator. The Chinese versions were translated back into English and reviewed for the face validity and readability by two bilingual experts from the nursing department of Huashan Hospital, and from Shanghai Medical University respectively.

Reliability of the Chinese versions of the MPSS-Fa Scale and the MASSA Scale were established by the Kuder-Richardson formula 20 (KR-20) for their internal consistency. The reliability values were .73 for the MPSS-Fa Scale and .91 for the MASSA Scale.

Data collection procedure

The interview method was used for data collection. The data was collected in the following sequences during November 1998 and February 1999:

1. Received permissions from the administrators of the Huashan Hospital and the Zhongshan Hospital, Shanghai Medical University, and the heads of the Outpatient Departments of Neurology.
2. Selected subjects who met the sampling criteria.
3. The investigator gave verbal explanation of purpose of the study to the subjects and assured them of confidentiality, anonymity and freedom to withdraw from the study at any time.
4. Gained written consent (see Appendix C) from the subjects.
5. Provided questionnaires to each subject and helped him/her to complete the questionnaires.
6. Coded the questionnaires according to the entering sequence of the subjects into the study instead of using the subjects' name.
7. Prepared the data for analysis.

Analysis of data

All data were analyzed by using a Statistical Package for Social Science (SPSS). Both descriptive and correlational statistics were used for data analysis. The

analyses were divided into three major parts:

1. Descriptive analysis in terms of frequency, mean, and standard deviation (SD) were conducted to describe the demographic data.

2. Descriptive analysis in terms of mean and SD were used to analyze the scores of self-care ability and family social support.

3. Spearman's rank-order correlation was conducted to determine the relationship between family social support and self-care ability. The statistical significant level was set at .05. According to Burn, Susan and Grove (1995), the correlation was classified into three levels according to the following criteria : r value less than 0.3 indicated weak correlation, r value between 0.3 and 0.5 indicated moderate level and r value more than 0.5 indicated strong level.