CHAPTER 3

METHODOLOGY

The objectives of this study were to describe the family support of visual impaired persons, to describe the quality of life of visual impaired persons, and to examine the relationship between family support and quality of life among visual impaired persons. In this chapter, research methodology in terms of design of the study, subjects, instruments, protection of human right, data collection procedure, and analysis of data were presented.

Design of the study

A descriptive correlational design was used to describe family support and quality of life and to examine the relationship between family support and quality of life among visual impaired persons.

Population, sample and sampling

The target population of this study was Chinese visual impaired persons. The accessible population was the visual impaired persons attending the ocular outpatient clinic in the First Teaching Hospital of West China University of Medical Sciences (WCUMS) in Chengdu, P. R. China during November 1999 to January 2000.

A purposive sampling method was used to select 65 subjects who meet the eligible criteria.

Eligible criteria were as follows:

1. Being 18 years old and older;
2. Having visual impairment with visual acuity of 0.3 or less or visual fields of 10 degrees or less in the better eye, with best correction verified by the client's medical record;
3. Having low vision at least half year prior to data collection;
4. Currently living with at least one family member;
5. Being able to communicate well in Chinese; and
6. Being willing to participate in this study.

Instrumentation

The questionnaires were used to collect data in this study. It consisted of three parts: 1) Demographic data record form; 2) Modified Perceived Social Support from Family Scale; and 3) Modified Quality of Life Questionnaire.

Demographic data record form

Demographic data record form was developed by the researcher to collect subject's general data including age, gender, visual acuity, visual fields for person with glaucoma, marital status, educational level, occupation, monthly income, type of medical payment, number of family members, perceived family relationship, length of time having low vision and person(s) accompanying to the ocular outpatient clinic.

Modified Perceived Social Support from Family Scale (MPSS-Fa)

The Modified Perceived Social Support from Family Scale (MPSS-Fa) was modified by Zhang (1997) from the Perceived Social Support from Family Scale (PSS-Fa) developed by Procidano and Heller (1983) was used to collect data concerning family support of visual impaired persons. The MPSS-Fa was a 15-item questionnaire with five negative items which the answer was in a "yes" or "no" format. The reliability of the MPSS-Fa in Chinese version was tested among ten breast cancer patients by Zhang (1997) using Kuder-Richardson 21 (KR-21). The alpha value was .90 which was considered as acceptable (Polit & Hungler, 1991).

Scoring of PSS-Fa: "yes" for positive items and "no" for negative items were scored as 1. "No" for positive items and "yes" for negative items were scored as 0. The possible range of score was 0-15. The level of perceived family support was classified as low or high by using the mean score of MPSS-Fa as the setting point according to the following criteria:

0.00 to 7.50 = low level;
7.51 to 15.00 = high level.

Modified Quality of Life Questionnaire (MQOLQ)

MQOLQ developed by the researcher through modifying Zhang's (1998) Quality of Life Questionnaire (QOLQ). The researcher modified Zhang's QOLQ by using the words "visual impairment" instead of "hemodialysis", changing a few words to fit with the subjects, and deleting two items because the items are not suitable for Chinese based on experts' suggestion. The modified quality of life questionnaire (MQOLQ) is a 50-items 5-point rating scale which includes four domains: life satisfaction (10 items), self-concept (15 items), health and functioning (15 items), and socioeconomic factors (10 items). Seventeen of them are negative items.

Scoring of MQOLQ: the scoring of positive items is 5 as very much, 4 as much, 3 as moderate, 2 as little, and 1 as very little. The scoring of negative items was reversed. The possible highest score of the MQOLQ is 250(5 × 50) that represents the best quality of life, the possible lowest score is 50 (1x50). The level of quality of life was identified as low or high by the mean score of MQOLQ and its domain as the setting point according to the following criteria:

Overall quality of life:
50 to 150 = low level; and
151 to 250 = high level.

Life satisfaction domain and socioeconomic domain:
10 to 30 = low level; and
31 to 50 - high level.

Self-concept domain and health and functioning domain:

15 to 45 = low level; and

46 to 75 = high level.

Testing the validity and reliability of instruments

The content validity of MPSS-Fa in English version was tested by five nursing experts in Chiang Mai University and was considered valid (Zhang, 1997). For the MQOLQ, the content validity in English version was examined by five Thai nursing experts who had research experiences in quality of life in Chiang Mai University. One of them is the developer of the original QOLQ. The content validity index (CVI) was .96 which achieved the acceptable level (Davis, 1992).

The MQOLQ in Chinese version with word replacement by researcher was reviewed by two bilingual experts in WCUMS to assure accuracy of the words. The reliability of two instruments in Chinese versions was tested among ten visual impaired persons who are consistent with the inclusion criteria and attended the ocular outpatient clinic in the First Teaching Hospital of WCUMS in Chengdu, Sichuan, P. R. China. Kuder-Richardson 21 (KR-21) was used to measure the internal consistency reliability of the MPSS-Fa (Polit & Hungler, 1991}. Cronbach's alpha was used to calculate the internal consistency reliability of MQOLQ and its domain. The alpha value of KR-21 was .82. The Cronbach's alpha values of MQOLQ and life satisfaction domain, self-concept domain, health and functioning domain, and socioeconomic domain were .83, .81, .86, .76 and .74, respectively, which reached the acceptable level (Polit & Hungler, 1991).

Protection of human right

Before conducting the study, the researcher considered protecting the right of human subjects as follows:

1.Obtained permission of data collection from the hospital's administrators, ophthalmologists, and nurses in ocular outpatient clinic.

2. Explained the purpose of the study, the confidentiality assurance, and their right to participate or withdraw from study at any time without any disadvantages to subjects. Verbal informed consent was obtained from each subject.

Data collection procedure

Data collection was done by the researcher step by step as followings:

1. Prior to implementation of the study, the study plan and protection of the human rights of subjects was assured by the researcher.

2. Obtained permission from hospital's administrators, ophthalmologists, and nurses who are in charge of the ocular outpatient clinic.

3. Explained the research purposes and plan to the ophthalmologists in order to ask for cooperation.

4. Reviewed the medical records of the subjects who

met the inclusion criteria.

5. After seeing the ophthalmologist, the subjects were invited to the quiet area. The subjects were informed the purpose of the study, the confidentiality assurance, and their right to participate or withdraw at any time from the study without any disadvantages. Verbal informed consent was obtained from every subject.

6. Read questionnaires to each of the subjects without any further explanation and then recorded their answers.

7. Thanked the subjects for their participation in the study after completing the questionnaires.

8. Organized all completed questionnaires for data analysis.

Analysis of data

All data was analyzed by the Statistical Package for Social Sciences (SPSS) computer software package.

1. Descriptive analysis was used to analyze demographic data in terms of frequency, percentage, mean, and standard deviation.

2. Mean, standard deviation, percentage, and frequency were used to analyze the scores of family support and quality of life.

3. After testing and confirmed the normal distribution of data, Pearson's product-moment correlation coefficient was used to examine the relationship between family support and quality of life among visual impaired

persons. The significant level was set at .05. The magnitude of relationship was determined by the following criteria (Burns, Susan, & Grove, 1995):

r value .30 or lower = mild relationship;
r value .31 to .50 = moderate relationship; and
r value more than .50 = strong relationship.