CHAPTER 3

METHODOLOGY

The purpose of this study is to identify the level of self-care behaviors of school-age children with heart disease. In this chapter the research design, population and sample, instruments, data collection procedure and methods of data analysis are presented.

Research design

A descriptive design was used in this study.

Population and sample

The population of this study were school-age children with heart disease attending the Out-patient Departments of three hospital, the First and the Second Teaching Hospitals of China Medical University and Shenyeng General Military Hospital in Shenyang City, China, during November 1999 to January 2000.

A sample of 82 subjects was selected through the purposive sampling method. The inclusion criteria of the sample was as follows:

1. School-age children with heart disease aged between 6 and 12 years, with their cardiovascular status of them stabilized and their cardiac function in class I-III.

2. Each of the subjects had at least one previous experience of hospitalization due to heart disease.

Instrumentation

The instrument used for data collection in this study consisted of three parts. Part 1: The Medical Record Form. Part 2: The Demographic Form. Part 3: Self-care Behaviors of School-age Children with Heart Disease Questionnaire (SBSCHDQ). Development of the instrument is presented as follows:

Part 1: The medical record form

The medical record form was used to record the medical information of the subjects, including duration of illness, class of cardiac function, number of admissions, cause of readmissions.

Part 2: The demographic form

The demographic form was utilized to obtain the demographic characteristics of the subjects and their families, including age, school grade, number of children in the family, sequence of the child in the family, parents' educational levels, parents' occupations, and family income.

Part 3: The Self-care Behaviors of School-age Children with Heart Disease Questionnaire (SBSCHDQ)

The SBSCHDQ was based on Orem's self-care theory and was developed by the investigator. It was used to assess the

self-care behaviors of school-age children with heart disease. The SBSCHDQ consisted of three dimensions of self-care behaviors: the universal dimension consisting of 22 items, the developmental dimension consisting of 10 items, and the health-deviation dimension consisting of 18 items. It was a Likert Scale with three levels consisting of 50 items, 37 positive and 13 negative. The scoring of the positive items was 0 as never, 1 as sometimes, and 2 as everytime; and those of the negative items were to the contrary. The range of the total scores was 0 to 100.

The scores of self-care behaviors and three dimensions were divided into three levels by the investigator using a proportional method: a low level meant below min. + (max. - min.) /3; a moderate level meant between min. + (max. - min.) /3 and min. + 2 x (mix. - min.) /3; and a high level meant above + 2 x (mix. - min.) /3 in following table

Table 1

Level of Self-care Behaviors

Item	Low	Moderate	High
Universal (22)	0-15	15.01-29	29.01-44
Developmental (10)	0-7	7.01-14	14.01-20
Health deviation (18)	0-12	12.01-24	24.01-36
Total (50)	0-33	33.01-66	66.01-100

Test for validity and reliability of SBSCHDQ

The content validity of SBSCHDQ was assessed by five nursing faculty members from Chiang Mai University, Thailand, who were experts in the areas of Orem's self-care theory and pediatric nursing. The Validity test for the Content Validity Index (CVI) was used. The CVI score was 0.83 which was considered acceptable (Burns & Groves, 1997).

The SBSCHDQ was translated into Chinese using the back translation technique. The investigator translated the English version into Chinese. The Chinese version was translated into English by an instructor at the Faculty of Nursing, China Medical University, who was good in Chinese and English. The investigator reviewed whether there were any discrepancies in wording and intended meaning and resolved the discrepancies. Also the Chinese version was reviewed for its face validity by three Chinese nurses who were experts in pediatric nursing.

After that, the investigator tested its reliability using Cronbach's alpha with 15 children who had the same characteristics as the subjects. The degree of understanding of the SBSCHDQ was reported and decided by the subject's report. The Cronbach's alpha coefficient was 0.74 (>= 0.7) and was understandable to school-age children which was satisfactory (Polit & Hungler, 1995).

Data collection procedures

The SBSCHDQ and the demographic form were used to collect the data by the researcher in the Out-patient

Departments of three hospitals in Shenyang city. The medical record form was obtained from the medical documentation. The data collection procedures were done by the researcher step by step as follows:

1. Asked for permission for data collection from the hospital administrations, physicians of the three hospitals in Shenyang.

2. Reviewed the medical information of the children who meet the inclusion criteria of the study using the Medical Record Form.

3. Explained the purpose and data collection procedures to potential subjects and their parents for cooperation and participation and obtained verbal informed consent.

4. Read the SBSCHDQ to each subject, and subjects completed questionnaire independently within 40 to 60 minutes. The parents completed the Demographic Form within 10 to 15 minutes.

5. Processed the data ready for data analysis.

Protection of human rights

1. Permission from the Hospital Administrative Committee and the subjects' parents was assured.

2. The subjects were identified by code numbers so as to ensure their confidentiality and privacy.

3. Encouraged honest disclosure of feelings. The children were given privacy while completing the questionnaire.

4. The children participated in this study voluntarily and they were free to withdraw at any time.

Analysis of data

The data was analyzed on computer using Statistical Package for Social Sciences (SPSS). The medical record data, demographic data of subjects and their families, and self-care behaviors scores were analyzed by using descriptive statistics including frequency, percentage, range, mean, and standard deviation (SD).