# CHAPTER 3

# METHODOLOGY

A descriptive correlational design was used to describe the amount of medical fear among hospitalized Chinese school-age children; and determine whether their medical fear could be predicted by selected factors including. Their age, sex, type of illness, and location of family home. Data was obtained from structured interviews among 100 subjects.

## Design of the Study

A descriptive correlational design was used in this study.

## Population and Sample

The target population for this study were the children aged six to 12 years admitted to the first, second, and third hospitals affiliated to Hunan Medical University in Changsha city of China between December 1996 - January 1997.

A purposive sampling was applied in this study. The sample size was 100 and decided by a formula (McLaughlin & Marascuilo, 1990, P252; Appendix C).

Subjects were recruited if they met the following eligible criteria:

(1) Age range was from six to 12 years;

(2) The child had normal cognitive ability as determined by age-appropriate grade;

(3) The child had at least 2 days of admission to hospital;

(4) The child could speak and understand Chinese, no major perceptual deficit;

(5) The child was not a newly diagnosed chronic illness case (less than three months).

(6) The child and his/her parents were willing to participate.

Sampling was set in the first, second and third hospitals affiliated to Hunan Medical University. These three hospitals are the same size, 1500 bed general hospitals. The routines, principles, and health care provided in these three hospitals are similar. Rooming-in of parent is allowed in the hospitals. None of the hospitals have special programs to prepare for hospitalization or to prepare for medical procedures and play therapy is not provided.

Instrumentation

The following instruments were utilized for data collection: A Demographic Data Form and the Child's Medical Fear Scale.

Demographic Data Form (Appendix B): The Demographic Data Form was developed by the researcher. This instrument measured demographic factors and important characteristics of the subjects and the family. These included parents' age, educational level and occupation; the child's age, sex and school grade, the living area of family, diagnosis, the time elapsed since diagnose, type of illness, length of hospitalization, number of child's previous admissions to hospital.

Child's Medical Fear scale (CMFs) (Appendix B): The CMFs (Broome, 1992) is a 17-item, 3-point Likert scale. The CMFS is a revision of an original 29-item schedule. Items are worded in the following fashion "I am afraid of getting a shot". Respondents indicate their amount of fear to various stimuli on a 3-point forced scale (Not at all=1 point, a little=2 point, and a lot=3 point). The range of the total score is from 17 to 51. Acceptable internal consistency (r= .81), test-retest reliability (r= .81, 2-week interval), and validity (CVI= .79) have been demonstrated in Western samples

(Broome, 1992).

In this study, the item " I am afraid of going to the doctor's office" was deleted because it seemed inappropriate to hospitalized children. Meanwhile, one item " I am afraid of taking medication" was added under the suggestion of experts in testing the content validity of the scale.

The instrument consists of four subscales (i) procedural fear including five items and possible score is five to 15; (ii) environmental fear including four items and possible score is four to 12, (iii) intrapersonal fear including four items and possible score range from four to 12; (iv) interpersonal fear including four items and a possible score of four to 12.

After completion the total score of the medical fear, each subscale and each item were divided into three levels as follows: (1) low amount, below 33.33 percent of the possible score; (2) moderate amount, between 33.33 percent and 66.67 percent of the possible score and (3) high amount, above 66.67 percent of the possible score. Therefore, the low amount of total medical fear was from 17 to 28.33, the moderate amount was from 28.34 to 39.67, and the high amount was from 39.68 to 51. For procedural fear, the low amount was five to 8.33, the moderate amount was from 8.34 to 11.66, and the high amount was from 11.67 to 15. For environmental fear, intrapersonal fear and interpersonal fear, the low amount was from four to

6.66, the moderate amount was 6.67 to 9.33, and the high was 9.34 to 12. For each item the low amount was from 1.00 to 1.66, the moderate amount was from 1.67 to 2.43, and the high amount was from 2.44 to 3.00. Additionally the reasons why the child answered 'not at all', 'a little', or 'a lot' to any item were asked if available.

### Test for reliability and validity

Before its field utilization in China, its current psychometry was established. Content validity of the English version was assessed by a panel of five experts: three experts in pediatric nursing, one expert in community health, and one expert in psychiatric nursing in Chiang Mai University, Thailand. Then the instruments were translated bilingually. The investigator translated the scale into Chinese, then it was translated back into English by a pediatrician in Hunan Medical University who is fluent in English. The investigator reviewed whether there were any discrepancies in wording and intended meanings and resolved the discrepancies. The internal consistency of the Chinese version was tested among 15 children who possessed similar characteristics with the subjects. The Cronbach alpha coefficient was .85 which was acceptable.

Data Collection Procedure

1. Getting permission for this study from the Faculty of Nursing of Hunan Medical University.

2. Contacting the head of the hospitals, directors of nursing department of each hospitals, directors and head nurses of each ward to get their permission and help.

3. Recruiting and training two assistants.

The two assistants were members of Nursing Faculty of Hunan Medical University who held master's degree. Interview training consisted of one discussion session and a practice interview. During the discussion period, the investigator introduced purpose and procedures of the study, gave all instruments along with the instruction information regarding administration and recording of the instruments to assistants. The meaning of each item or question was explained. Techniques for motivating respondents and maintaining consistency in interviewing were discussed. Following this session, each assistant administered the instrument to a patient in the presence of the investigator. They then discussed the practice interview together immediately after it was completed. The investigator and the two assistants were the data collectors and collected data in three hospitals separately.

4. Selecting the subjects according to eligible criteria.

5. Asking for permission from the child and his/her

parent.

The data collectors introduced the purpose, the procedure and nature of the study to each subject and their parents (Appendix A). If the subjects and their parents verbally agreed to participate in the study, an interview appointment was made at a mutually convenient time.

6. Interviewing the child and his/her parents

A structured interview was conducted face to face under the guidance of the instrument in a single room. Close to the interview time, no special medical procedures were administered such as bone marrow aspiration, lumbar puncture etc. First, demographic data was obtained from the child and/or parent because the questions asked were easily answered and generally non-threatening, thereby allowing for the development of rapport between the interviewer and respondent. Then the parents were asked to step out and the items of CMFS were read to the child loudly and clearly without special explanation and direction. The interviewer made sure that the child understood the questions and answered by her/himself.

Human rights protection

To protect the rights of human subjects, the nature and purpose of the study was explained clearly to the children and their parents (Appendix A). The subjects and their parents had the freedom to control their own activities, including

their voluntary participation in the study. Privacy of subjects was maintained through anonymity.

**Analysis of Data**

A computer was used to perform the process of calculation, using Statistic Package for Social Science (SPSS).

1. Frequency, percentage, mean and standard deviation (SD) were used to describe the demographic and characteristic data.

2. Mean and SD were used to describe the amount of medical fear.

3. Stepwise multiple regression was applied to examine the prediction of medical fear among hospitalized Chinese school-age children by selected factors including the child's age, sex, type of illness, and location of the family home. Before running the multiple analysis, dummy coding was done to transform qualitative variables, sex, type of illness, and location family home into quantitative variables. The results indicated that the assumptions were all met.

4. Significant level Alpha was set at 0.05.