CHAPTER 3

METHODOLOGY

The purposes of this correlational descriptive study were to identify job stressors, to determine the level of burnout, to investigate the relationship between job stressors and burnout, and to compare job stressors and levels of burnout among staff nurses in four clinical units in four urban Chinese teaching hospitals in Xian.

Design of the study

A correlational descriptive study was employed. In this study, the specific demographic variables consisted of age, sex, marital status, education level, professional titles, clinical units, time working as a nurse, and time working in the present position. Job stressors were categorized under five subscales: nursing care and patient interaction, workload and time pressure, interpersonal relationships and management problems, professional and career issues, and environmental and resource problems. Job stressors act as independent variable in predicting burnout. Level of burnout was reflected by emotional exhaustion, depersonalization, and lack of personal accomplishment.

Population and sample

The target population for this study consisted of 1200 staff nurses working in the four urban Chinese university teaching hospitals in Xian, Shaanxi province, northwest part of People's Republic of China. The four hospitals are: the First Teaching Hospital and Second Teaching Hospital of Xian Medical University, Tangdu and Xijing Hospitals of the Fourth Military Medical University.

Selection criteria for the sample were as follows:

1. Currently worked in the four clinical units (medical, surgical, obstetric and gynecological, and pediatric units).
2. Provided direct patient care.
3. Worked as a nurse for at least one year.
4. Willing to participate in the study.

The sample size for the study were 239. This sample size of the study was calculated from a 20% of a target population of 1200 nurses.

The systematic random sampling method was used to determine the subjects from the four units in the four hospitals. Subjects were obtained by selecting one in every five from the list of staff nurses by unit in nursing service department. The starting place in the list was selected from

the beginning of the list. This process continued until the required number of subjects were obtained. As the results, seventy six subjects were chosen from 388 staff nurses working in four units in the First Teaching Hospital of Xian Medical University. Sixty two subjects were chosen from 308 staff nurses working in the four clinical units in the Second Teaching Hospital of Xian Medical University. Forty five subjects were selected from 226 staff nurses working in the four clinical units Tangdu Hospital of the fourth Military Medical University. And fifty six subjects were selected from 278 staff nurses in four clinical units in Xijing Hospital of the Fourth Military Medical University. Sample selections of the study excluded the subjects of the reliability test in order to avoid testing bias due to repeated measurement. Number of subjects from each clinical units in each hospital was shown in the Table 1.

Table 1. Number of subjects from each clinical units

Hospital	Population	Sample				
		Total	Med	Sur	OB/Gyn	Ped
First Teaching Hospital of XMU	388	76	28	30	10	8
Second Teaching Hospital of XMU	308	62	22	24	9	7
Tangdu Hospital of FMMU	226	45	16	17	6	6
Xijing Hospital of FMMU	278	56	20	23	8	5
Total	1200	239	86	94	33	26

XMU=Xian Medical University

FMMU=The Fourth Military Medical University

Setting

The study was conducted in the four largest urban Chinese teaching hospitals in Xian, including the First and Second Teaching Hospitals of Xian Medical University and Tangdu and Xijing Hospitals of The Fourth Military Medical University, Shaanxi province, People's Republic of China. Those four hospitals are the government-operated university

teaching hospitals in Xian. The First and Second teaching hospitals of Xian Medical University are under the Ministry of Public Health, while Tangdu and Xijing Hospitals of the Fourth Military Medical University were belong to the Military Health Center of the Ministry of Military. Although the hospitals were under different leadership, they serves the same kinds of patients with similar background from the northwestern part of China.

Protection of Subject's Human Rights

Prior to data collection, to assure the protection of human rights of the subjects, a research consent form was given to the subject. Confidentiality and anonymity of individual responses were guaranteed by a statement included in the cover letter. Code numbers were used instead of names. Information provided by the subjects was used only for the purposes of the study and remained confidential.

Instrumentation

Data were collected by using 3 types of questionnaires. These were a demographic data questionnaire, a Nursing Job Stressor Inventory, and a Maslach Burnout Inventory.

Demographic data questionnaire was designed especially for the study and comprised of questions which covered sex, age, marital status, educational level, professional title, names of the hospital, working units, years of working in nursing profession, and years of working in the current unit.

Nursing Job Stressor Inventory (NJSI) is a 35-item nursing job stressor inventory covering various aspects of nurses' jobs. It was developed by the researcher based on the nursing stress scale developed by Gray-Toft and Anderson (1981), the sources of stress inventory developed by Wheeler and Riding (1994), and the review of literature. The inventory consists of five subscales: (1) nursing care and patient interaction, (2) workload and time pressure, (3) interpersonal relationship and management issue, (4) professional and career issue, and (5) resources and environmental issue. Subjects rate each item on a 4-point scale of frequency of occurrence (1=never, 2=occasionally, 3=frequently, 4=very frequently). Rating is summed to produce

a total score. Mean and standard deviation were used to indicate the frequency of job stressors. Means between 3.03 to 4 is considered mostly frequently encountered job stressors, mean between 3.02 to 2.03 is considered frequently encountered job stressors, and mean between 2.02 to 1 is considered less frequently encountered job stressors.

Maslach Burnout Inventory (MBI) developed by Maslach & Jackson (1986) was used to measure levels of burnout among nurses. This is a 22-item, 7-point Likert scale. The inventory is divided into three subscales: emotional exhaustion, depersonalization and personal accomplishment (Maslach & Jackson, 1986).

The emotional exhaustion items (EE) assess the feelings of being emotionally overextended and exhausted by one's work. There are nine items which assess emotional exhaustion. Scores between 19 and 26 are considered average. While score over 26 indicates high emotional exhaustion.

The depersonalization sub-scale (DP) identify a feeling and impersonal response towards recipients of one's service, care, treatment, or instruction, which is measured by five items. Score between 6 and 9 are average and scores over 9 indicate high depersonalization.

The personal accomplishment items (PA) measure feelings of competence and successful achievement in one's

work with people. Eight items assess feelings of personal accomplishment and success from work. Average personal accomplishment is reflected by scores between 34 and 39 with poor personal accomplishment occurring when scores are below 34.

Reliability and validity

Psychometric analysis conducted demonstrates that the Maslach Burnout Inventory has acceptable reliability and validity (Sullivan, 1993). Cronbach's alpha for internal consistency were reported at .90 for EE; .79 for DP; and .71 for PA. The test-retest reliability coefficients were .82 for EE; .60 for DP and .80 for PA. Convergent validity was established in three different ways (Langemo, 1990). A mean score was calculated for each respondent by adding all items and dividing them by the number of the items.

The content validity of job stressor inventory was established by five nursing experts in the Faculty of Nursing, Chiang Mai University, Thailand. The experts were asked to evaluate the questionnaire for clarity, readability, item relevance, discrimination, and inclusiveness of items. The items met the criteria for content validity, and bearing an overt relationship to the purpose for which they were established.

Both NJSI and MBI were translated into Chinese by the researcher. The translation was validated by two bilinguistic experts in the English department of Xian Medical University using English-Chinese-English translation methods. The content and construct validity of the nursing job stressor inventory was also established by discussing the items carefully with experts in psychology, nursing, and Chinese language.

Those instruments were pretested for internal consistency by employing the instrument in 15 nurses with the same criteria as the subjects at the study setting. The reliability was calculated by using Cronbach's alpha coefficient. The Cronbach's alpha coefficient for NJSI was .98, and NJSI five subscales of nursing care and patient interaction, workload and time pressure, interpersonal relationships and management problems, career and professional problems, and environmental and resources problems were .95, .83, .92, .94, and .90 respectively. Cronbach's alpha coefficient for MBI were .93, and for the three subscales of emotional exhaustion, depersonalization and reduced personal accomplishment were .91, .81, and .84 respectively.

Data Collection Procedures

Data study was conducted in the following sequences:

1. Permission from the hospitals' nursing service director was obtained in order to access the subjects.

2. The researcher met with a nursing administrator and the head of the department in each of the hospitals for an orientation to the study and informed the objectives of the study.

3. The researcher obtained the name of the subjects from the nursing service departments in each of the four hospitals. Then the subjects were selected using systematic random sampling method from the list in each of the hospitals' nursing service department.

4. The researcher contacted the subjects in their working units, invited them to participate in the study, told them their participation was completely voluntary, and gave a consent form to each subject who was willing to participate. In case the subjects were not present when the researcher came to the units, the researcher asked the head nurses to give the consent form to the subjects.

5. The three research questionnaires (a demographic questionnaire, a Nursing Job Stressor Inventory, and a Maslach Burnout Inventory) were hand-delivered to the subjects by the researcher. In case the subject was not on shift when the questionnaires were delivered, the researcher asked the head

of the unit to give the questionnaire to the subject. Along with the questionnaires, a cover letter and a subject consent form were also given to the subject. The cover letter explained the nature of the study, and invitation for participate in the study, method for insuring confidentiality and assurance that participation was voiuntary. Subjects were requested to complete the questionnaires in private and then the researcher collected them in two weeks time.

6. The researcher reviewed all the data and discarded the questionnaires which had incomplete items. Then the researcher prepared the data for analysis.

Data Analysis

All data were analyzed by using a Statistical Analysis System program (SAS) and the statistical package for the SPSS. The procedures used were dictated by the purposes of the study, the nature of the data, and the level of measurement of the variables. Both descriptive and inferential statistics were used for data analysis. The analyses were divided into six major parts:

1. Demographic data were shown in tables for describing the subject by using mean, standard deviation, range, frequency distribution and percentage.

2. Mean, standard deviations, frequency distribution and percentage for job stressor scores and subscales scores

were calculated.

3. Mean, standard deviations, frequency distribution and percentage for MBI total scores and three subscales scores were calculated.

4. Pearson's product moment correlation analysis was performed to examine the relationships between perceived job stressors and level of burnout.

5. One way ANOVA was used to compare job stressors among nurses in the four clinical units.

6. One way ANOVA was conducted to compare levels of burnout among nurses in these four clinical units.

The researcher set the significant level at .05 for all analyses.