

CHAPTER 3

METHODOLOGY

This chapter describes the methodology in the study. It includes research design, population and sample, setting, instrumentation, protection of human subjects, data collection procedure and data analysis.

Research design

This descriptive correlational research design was used in this study to measure the level of head nurse management style and staff nurse burnout in central hospitals in Lao, PDR and to identify a relationship between head nurse management style and staff nurse burnout.

Population and sample

Population

The target population of this study was staff nurses who have presently worked for at least 1 year. In central hospital, Vientiane, Lao PDR, there are 3 hospitals: Mahosot Hospital, Mittaphab Hospital, and Setthatirath Hospital. Totally, there are 601 nurses and 58 head nurses. There are 323 nurses in Mahosot Hospital, 130 nurses in Setthatirath Hospital, and 148 nurses in Mittaphab Hospital. The sample

size of this study was calculated following Yamane (1973). The sample size was calculated as follows:

Yamane's formula

$$n = N / (1 + N (e)^2)$$

The level of significance is 0.05.

N = total number of accessible population

n = sample size

e = the error in the sample

The sample size $n = 601 / (1 + 601 \times 0.05^2) = 240$

Woldehanna (2002) suggested that the possible subject loss is around 10-20 percent. For this study, 20 percent was added. Therefore, sample size for study was 288 nurses. Sample size of staff nurse was calculated by using proportion of population from each hospital since each hospital has different number of population. The following table shows the number of all nurses and sample of each hospital.

Table 1

Total number of the nurses and sample from Mahosot hospital, Mittaphap hospital, and Sathatilath hospital

Hospital	All nurses in hospital	Total sample size
Mahosot hospital	323	154
Mittaphap hospital	148	72
Sathatilath hospital	130	62
Total	601	288

Setting

This study was conducted at three hospitals: Mahosot Hospital, Setthathirath Hospital, and Mittaphab Hospital in Vientiane, Lao PDR.

Research instruments

The instrument used in this study was a series of questionnaires which consists of three parts:

1. **Demographics Data Form:** It consists of information about age gender, marital status, educational level, year of working experience, assigned responsibility, personal income per month, and continuing education in nursing care during the last 5 years.
2. **The Profile of Organizational Characteristic (POC)** by Likert (1967), modified by Winyaratana (2000) was used to translate from Thai to Lao language.

After obtaining permission from the graduate school, Chiang Mai University, the instrument was translated by 2 bilingual persons who understood both Lao and Thai language. The translated version aimed to measure nurses' perception of their head nurses' management style. This instrument was designed to measure management style in terms of exploitative-authoritative (system1), benevolent-authoritative (system2), consultative (system3), or participative group (system4). The 16 item instrument was divided into the six categories of leadership, motivation, communication, decision making, goals, and control. Each item is scored on a Likert scale of 1 to 7 with descriptive phrases used to delineate the four systems on the scale. For each question, the subjects completed two responses, one that described their nursing unit at the present time and another that described how they would like their nursing unit to operate. For both the current and the desired styles, the numerical responses were summed and a mean score calculated with scores of 1-2.49 representing system1; 2.50-3.99 system 2; 4.00-5.49 system 3; and 5.50-7.00 system 4. Test of instrument reliability was done by 20 staff nurses who have characteristics similar to study population in one of three hospitals. The Cronbach's alpha coefficient of Lao version POC was .92. The evaluation score was identified by the original author and is described as follows:

<u>Mean scores</u>	<u>Style of management</u>
1.00-2.49	exploitative-authoritative system
2.50-3.99	benevolent-authoritative system
4.00-5.49	consultative system
5.50-7.00	participative group system

3. The Maslach Burnout Inventory (MBI) by Maslach, Jackson, and Leiter (1996) was used after obtaining permission from the original authors. The English version was translated into the Lao language to measure staff nurse burnout as perceived by staff nurses in working hospital. This instrument is designed to measure burnout in terms of 1) emotional exhaustion, 2) personalization, and 3) personal accomplishment. There are 22 items. Three subscales include emotional exhaustion is measured with nine items (items 1, 2, 3, 6, 8, 13, 14, 16, and 20). Personalization is measured with five items (items 5, 10, 11, 15, and 22). Personal accomplishment is measured with eight items (items 4, 7, 9, 12, 17, 18, 19, and 21). This question is a 7-point scale from 0=fully congruous. The evaluation score was identified by the original author and is described as follows:

<u>Burnout</u>	<u>Low</u>	Moderate	High
Emotional exhaustion	≤ 16	17-26	≥ 27
Depersonalization	≤ 6	7-12	≥ 13
Personal accomplishment	≥ 39	32-38	0- 31

Burnout is conceptualized as a continuous variable, ranging from low to moderate to high degree of experienced feeling. It is not viewed as a dichotomous variable, which is either present or absent.

1) A high degree of burnout is reflected in high scores on the emotional exhaustion and depersonalization subscales and in low scores on the personal accomplishment subscale.

2) An average degree of burnout is reflected in averages scores on the three subscales.

3) A low degree of burnout is reflected in low scores on the emotional exhaustion and depersonalization subscales and in high scores on the personal accomplishment subscale.

Reliability of the instruments

A pilot study of 20 staff nurses who met the same criteria was conducted with convenience sampling at Mahosot, Setthatirath, and Mittaphab hospitals. The internal consistency reliability was tested using Cronbach's method. The Cronbach's alpha coefficient of Lao version POC was .92 and the reliability of The Maslach Burnout Inventory was .80. The Cronbach's alpha of each subscale is presented in Appendix D

Protection of human subjects

The research proposal was submitted to the research Ethics Review Committee, the Faculty of nursing, Chiang Mai University, Thailand and obtained approval before data collection. Then, approval was taken from the secretary of Ministry of Health, central hospital director. Subjects were selected from the nurses in all three hospitals in Lao PDR. Prior to data collection, it was necessary to assure the protection of human rights of the subject. A research consent form was given to the subjects. Nurses were free to the refuse to participate or withdraw from the study at any time without any punishment. Confidentiality and anonymity of individual responses were guaranteed by a statement included in the cover letter. Information provided by the subjects was used only for the purpose of the study and remained confidential.

Data collection procedure

This study was conducted from May 12th to August 5th, 2010 at central hospitals, Lao People's Democratic Republic. The following steps were performed:

1. After having received approvals from the research Ethics Review Committee in faculty of nursing Chiang Mai University, research proposal and instruments were submitted to all three hospitals in Vientiane, Lao PDR for approval and permission to collect data.

2. Permission was obtained from the president and director of nursing department of the Central Hospital in Vientiane, Lao PDR.

3. Nurse managers in the clinic units were informed.

4. Subjects were selected using random sampling from the list of the nurse's code in nursing department. Staff who had already participated in the pilot were excluded from the sampling.

5. The purpose, objectives, and benefits of the study were explained to the subjects.

6. The questionnaires were distributed to all subjects with request for cooperation to complete the forms on their own time, seal the envelopes (already provided with the researcher's such name and address), and put in the researcher's mail box in the hospital within four weeks.

7. The questionnaire was collected. The ones which were not fully completed were excluded. A total of 288 questionnaires were distributed to three hospitals. There were 288 questionnaires returned and 3 questionnaires were incomplete due to missing information. Therefore, the final sample size of staff nurses

was 285 (98.95%). The distribution of the accessible population and sample size are illustrated in Appendix (Table 1).

Data analysis

Data was aggregated into the computer, and the researcher checked and analyzed the data using SPSS 13.0 (a statistical software package). The data analysis procedure was divided into 3 parts as follows:

1. Demographic data (frequency, percentage, mean, and standard deviation)
2. Scores of head nurse management style and staff nurse burnout perceived by staff nurses were analyzed using frequency, percent, mean, and standard deviation.
3. The relationship between head nurse management style and staff nurse burnout was analyzed using Pearson's product-moment correlation coefficient. According to Burn and Grove (2007), r value between .10 and .30 is considered weak relationship, r value $> .30$ to .50 is considered having moderate relationship and r value $> .50$ is considered a strong relationship.