

## CHAPTER 3

### RESEARCH METHODOLOGY

#### RESEARCH DESIGN ARCHITECTURE

To answer the research questions properly and considering the short time period will be available and other practical constraints, a descriptive survey and analysis had been adopted in this protocol(21). To evaluate a perplexed topic like continuing education and to learn how people think and feel about this issue was performed a cross sectional descriptive survey.

#### SAMPLING SPECIFICATION

Target population: All the professional nurses who were working in surgical units at public sectors around Bangkok.

#### SAMPLE POPULATION

The representative sample of this population was selected from surgical units and from all public sectors around Bangkok. And nurses in each hospital were selected by simple random sampling. All the involved

subject was selected by using the following eligibility criteria;

#### **ELIGIBILITY CRITERIA**

##### **INCLUSION CRITERIA**

1. Professional nurses who had bachelor degree in nursing.
2. Professional nurses who were working full time basis in surgical units of the public sectors.
3. Professional nurses who had more than 6 months experience in surgical units.

##### **EXCLUSION CRITERIA**

1. Professional nurses who were working part time in the public sectors.
2. Professional nurses who were more than 35 years of age. This criteria comes from the limitation of age for student who wants to study a Doctor of Philosophy course in Thailand.

### JUSTIFICATION OF SAMPLE SIZE

The study was designed to answer the primary question of "what were the percentages of professional nurses who are interested and nurses who are not interested in continuing education in surgical nursing?" The primary outcome variables were interested in program characteristics of continuing education in formal post graduate course in surgical nursing. So the equation use in sample size calculation was to estimate the expected proportion(P) who had the variables of interest and calculated down from the desired total width ( $\Delta$ ) of the confidence interval. The general formula of sample size for cross sectional descriptive survey is (22):

$$n = \frac{Z^2 \alpha P(1-P)}{\Delta^2}$$

$Z\alpha$  = The standard normal deviation for a two tailed  $\alpha$ , where  $(1-\alpha)$  is the confidence level for this study having a 95% confidence level'

$$Z\alpha = 1.96.$$

P = Expected proportion of interest of professional nurses in continuing education. I had expected that the proportion of this study a largest group estimated was about 0.50.

$\Delta$  = Total width of confidence interval  
Acceptable error in this study was about 0.05 or 5%

So, that calculation was

$$\begin{aligned} n &= \frac{(1.96)^2 (0.5) (1-0.5)}{(0.1)^2} \\ &= 384 \text{ persons} \end{aligned}$$

The sample size was calculated with anticipated drop out of 10% so, the total sample required is 400 persons, in this study.

### **SAMPLING TECHNIQUE**

The location of this study was the general public hospitals into Bangkok Metropolitan Area. All professional nurses who were working in the surgical units of these hospitals were planned to select using **simple random sampling technique**. All sample size should be proportionate by size in each hospital. Unfortunately, the number of professional nurses in surgical units of each hospital were nearly the same and the total number was about 400. So all 400 professional nurses who met the eligible criteria were selected.

### **OUTCOME MEASUREMENT**

#### **INDEPENDENT VARIABLE**

(a). Subjects' characteristics including personal and the following work related characteristics.

- Age
- Marital status
- Income
- Work experience
- Work place
- Administrative position
- Education
- Hospitals
- Special job

(b). Program characteristics was defined as program quality, cost, timing, content relevancy, as Appendix I.

#### **DEPENDENT VARIABLE**

"Interest of program characteristics of continuing education in formal post graduate surgical nursing degree."

#### **INSTRUMENTATION**

The instrument used in this study was a standardized questionnaire administered by interview like Appendix II. This questionnaire used the IOWA Continuing Education scale which was standardized earlier, and some modifications were made to make it suitable for using in Thailand. After reviewing of literatures and consulting with experts, a questionnaire was developed and divided into three parts.

Part I Inquiry of demographic data which consisted 8 questions.

Part II Inquiry of program characteristics in surgical nursing course which consisted 17 questions.

Part III Inquiry of contents for surgical nursing course which consisted 5 questions.

Quality of measuring tool was measured by two characteristics of measurement: validity and reliability.

1. Content validity: Experts each from nursing field, education field, measurement field and management field were consulted.

2. Reliability: Reliability of the instrument was tested by Kuder-Richardson 21. The result was 0.82. The language meaning and wording of the questionnaire for clarity by at least two pre-testing before use, was done.

3. Pilot study: Before collecting data, a pilot study was conducted in the hospitals which were not included in this study.

4. Questionnaire: Included the Iowa continuing education scale (ICES) (Appendix I) which was further developed and modified to make it suitable to use in Thailand.

## **DATA COLLECTION**

Data collection was performed after receiving a letter of permission from the Faculty of Medicine of Chulalongkorn University. This letters of permission and request were sent for the attention of the directors of public sectors, before data collection was permissible. Formal contract was made with the head nurses to ensure co-operation of nurses to avoid drop out and to make appointment with the respective sample working under them. Interviews were taken by the researchers according to pre-arranged schedule. All collected data was entered into a pre-coded data collecting sheet.

## **DATA ANALYSIS**

Collected data was processed into Epi Info program and analysis was done by SPSSPC+ program. Statistics used in this study were as follows:

1. The descriptive statistics were used to describe the general information into percentage, mean and standard deviation, whenever necessary.
2. Chi Square test and Fisher's exact test.