

## CHAPTER III

### RESEARCH METHODOLOGY

#### RESEARCH DESIGN

This was a "cross-sectional descriptive" survey which was designed to examine the situation and factors interacting with the intention of nurses to take care of HIV-infected patients in Songklanagarind Hospital. This design was built on the recognition that survey study is less expensive and less time consuming.

#### POPULATION AND SAMPLE

##### Target Population

The target population in this study comprised all registered nurses who were working in Songklanagarind Hospital.

##### Sampled Population

The population to be sampled was composed of registered nurses from Nursing division, Songklanagarind Hospital.

##### Sample and Sample Size

To ensure that the results of this study had good precision and accuracy, this study needed to have sufficient numbers of samples. To determine the required sample for the study, the researcher used an approximate proportion of Chaiwat Panjapongse's study (1989) which

indicated that 35.5% of nurses were not willing to perform cardio-pulmonary resuscitation for AIDS patients. Therefore, this study presumed that 30 % of nurses had low intention to take care of HIV-infected patients. The sample size in this study was calculated by using the formula (Colton,1974) shown below:

$$N = Z_{\alpha}^2 PQ / \Delta^2$$

Where N is sample size

$Z_{\alpha}$  is standard score for a 95 % confident interval, that is, the conclusion of the study can be wrong 5 times out of 100 times ( $\alpha = 0.05$ ). The  $Z_{0.05}$  is equal to 1.96.

P is the proportion of nurses with low intentions to take care of HIV-infected patients. It is equal to 0.3.

Q is equal to 1-P, it is 0.7.

$\Delta$  is acceptable error of deviation from average low intention, which is set at 5 %.

From the above formula, the required sample size for this study was

$$\begin{aligned} N &= (1.96)^2 \times (0.3 \times 0.7) / (0.05)^2 \\ &= 322.694 \text{ or } 323 \text{ cases.} \end{aligned}$$

Plus 20 % for drop out, thus, the sample should be 387 nurses in total

The researcher recruited all "Registered Nurses" from the sampled population after eligible criteria were met. Thus, the final total was 360 nurses (see Table 3.1).

### **Eligible Criteria**

#### ***Inclusion criteria***

"Registered Nurses" were nurses:-

1. Who worked in Songklanagarind Hospital.

2. Who had worked in this profession continuously longer than 6 months.

3. Who utilized their professional skill to apply to patients.

***Exclusion criteria***

1. Those who were on leave during the period of study.

2. Those who were administrators, supervisors, were not eligible.

**Table 3.1 Sample Specification**

Character	Number
Target population:	
All nurses in Songklanagarind Hospital	474
Sampled population:	
Nurses in Nursing division	425
Nursing administrators	10
Nurses who were on leave	8
Nurses who had worked not longer than 6 months	47
Sampled population	
After considering eligible criteria	360



## **MEASUREMENT**

### **Outcome Measurement**

The measured outcomes were :

#### ***Dependent variable***

1. Intention to take care of HIV-infected patients includes
  - Attitude toward performing care, and
  - Subjective norm

#### ***Independent variables***

1. Demographic factors
2. Psychosocial impact of AIDS
3. Work motivation
4. Personal ability
5. Policy of prevention

## **INSTRUMENTATION**

To collect data for this study, self-administered questionnaire was used. The questionnaire was constructed and developed as follows:

1. Critical reviews of related literatures about AIDS and health-care professional aspects.
2. Construction and development of the questionnaire.
3. Assessment of content validity of the questionnaire. Experts were requested to comment on the content, completeness, and clarity of each item in the questionnaire.
4. Improvement of the questionnaire to ensure the appropriateness and clarity in measuring the outcomes in this study.
5. Testing for language clarity;
  - 5.1 The researcher selected five nurses from

Chulalongkorn Hospital assuming that their characteristics were similar to those of Songklanagarind Hospital.

5.2 The researcher asked them to read the questionnaire question by question to ensure their understanding.

5.3 In cases where their understanding were deviated from original meanings, the nurses were given more detailed explanation about the intent of the question. Following that, they were asked to rewrite appropriate questions.

5.4 The comments from these nurses were carefully considered. As a result, they were used for fieldwork.

6. Assessment of instrumental reliability, **KR-20** and **Cronbach's alpha** were used to compute internal consistency. KR-20 is appropriate for scales with items that are answered dichotomously. Cronbach's Alpha is an extension of KR-20 and is useful for items that have more than two response alternative (Streiner and Norman, 1991). This type of reliability focuses on the reproducibility of measurement across different items within questionnaire, that is reproducibility of content. To establish the internal consistency of this particular questionnaire, the questionnaire was administered once to a pool of subjects, and the interrelationship between items on the questionnaire was assessed. All of these reliability coefficients were obtained by intercorrelating subjects' scores on items within this questionnaire. The questionnaire was standardized until internal consistency coefficient was higher than 0.7.

In this study, 40 nurses from the Chulalongkorn Hospital were used to test for the reliability of the instrument; 2 which had missing information were discarded. Finally, 38 completed data were computed. The internal consistency is shown in Table 3.2 below.

**Table 3.2 The Reliability of the Questionnaire**

Categories	Relia. coef.	Internal consist.
1. Intention to take care	Cronbach's alpha	0.79
2. Job satisfaction	Cronbach's alpha	0.86
3. Personal Ability	KR-20	0.67
4. Fear of AIDS	Cronbach's alpha	0.91

### **Instrumental Component**

The questionnaire framed in this study consisted of 6 parts

#### **Part 1 Demographic data**

A comprehensive demographic data sheet was developed by the researcher and content validity was examined by a panel of experts. The data sheet contained such variables as age, sex, work setting (eg. ward, unit), period in the job, experience in servicing HIV-infected patients, history of accidental needle-stick or other injuries, or direct exposure to patients blood, etc.

#### **Part 2 Intention to take care of HIV-infected patients**

The researcher constructed a questionnaire inventory to measure the intention to take care of HIV-infected patients. The questionnaire was built based on the Ajzen and Fishbein Theory of Reasoned Action. It was composed of 32 items (see Appendix A) which is divided into 2 sections as follows:-

1. Attitude toward performing care which consisted of 2 part.

- Behavioral beliefs (9 items)
- Consequence behavior (9 items)

2. Subjective norms which consisted of 2 parts.

- Normative beliefs (7 items)
- Motivation to comply (7 items)

The nurses were asked to rate their own perceptions in a five-point scale, for each individual item.

For positive items, the score was scaled from 5 (strongly agree) to 1 (strongly disagree), and for negative items the score scaled in reverse.

The attitude score was computed by multiplying each of the 9 behavioral belief items by their corresponding outcome evaluation items (possible range from 1 to 25). The social norm score was calculated in a similar manner for the 7 normative beliefs and the corresponding motivation to comply items (possible range from 1 to 25). Intention score was calculated by the sum of the attitude scores and the social norm scores (possible range from 16 to 400).

To assess the intention to take care, data from this part were added up into total score following the Ajzen and Fishbein Theory of Reasoned Action. The total score was divided into 3 categories: low, moderate and high level of intention, criterion judgement for cut-off point utilizing data based on pre-testing. Since the total score was normal distribution, it was statistically reasonable determining the cut-off point by the mean of the total scores for all participants plus or minus one standard deviation of the total scores for all participants ( $\bar{X} \pm SD$ ). If a participant's total score was higher than mean plus one standard deviation ( $\bar{X} + SD$ ), then the participant was classified as having a high intention. Similarly, if the participant's score was less than mean minus one standard deviation ( $\bar{X} - SD$ ), she was identified as

having a low intention. The remaining score was determined as having a moderate intention.

From the pre-testing information, complete data from 38 subjects was computed. The results showed that the sample mean ( $\bar{X}$ ) was 193, with standard deviation (SD) being 33. So, the intentions of nurses were classified as shown in Table 3.3.

**Table 3.3 The Classification of Intention**

Level of intention	Intention scores
Low intention	Lower than 161
Moderate intention	161 - 226
High intention	Higher than 226

### **Part 3 Work motivation**

This part consisted on 20 items of job satisfaction that reflected work motivation among nurses. To assess this variable, the Minnesota Satisfaction Questionnaire was used. The nurses were asked to rate their satisfaction in each aspect of their job in a five-point scale. The score was scaled from 1 (strongly unsatisfactory) to 5 (strongly satisfactory). The data from each subject was added up to make the total score.

### **Part 4 Personal ability**

The questionnaire in this part consisted of 24 items including knowledge, skill, experience and enabling factors which activate nurses' intention to perform care. All questions were dichotomous. The research divided this part into 3 subscales (see Appendix A).



1. Knowledge (8 items)
2. Skill and experience (6 items)
3. Administrative policy (10 items)

#### ***Part 5 Psychosocial impact of AIDS***

This variable is the "fear of AIDS" variable, which is an important effect of AIDS. This variable was measured by the questionnaire developed from the "Fear of AIDS Schedule" (Arrindell A., 1989). The items referred to events and experiences that might cause fear or other related unpleasant feelings towards AIDS.

This part was measured by 18 items on a five-point scale. For each item, subjects were asked to indicate whether it disturbed them "very much" (scored 5) to "not at all" (scored 1). The data of each subject was added up to make a total score.

#### ***Part 6 Policy of prevention***

This part focused on the hospital's regulations on the universal precaution using by nurses. Taking a patient's blood is assumed to be a good example of this particular guideline. Thus, the researcher constructed 7 questions on how nurses took blood from patients, and how they followed the universal precaution and how difficult it was.

### **DATA COLLECTION**

1. The researcher obtained permission from the Dean of Faculty of Medicine, Prince of Songkla University.
2. "Registered Nurses" were registered for this study. Samples were drawn from registered records. Selected respondents were asked to participate [See section on ethics]. All of them received the questionnaire with a covering letter explaining the purpose of the study, an invitation to participate, and guarantee confidentiality.

3. The return of the questionnaires was taken as their agreement to participate .

#### **ETHICAL CONSIDERATION**

This study had a non-experimental design. Respondents had the right to cancel their cooperation at any stage of this study. In Thailand, informed consent for a study like this is not required. However, permission from potential participants was implicit and was necessary. In addition, the researcher was responsible for the participants' welfare, for keeping information confidential and for protecting the rights of participants.

#### **LIMITATION**

Because of the limitation of time and budget, this study was conducted and carried out in a single period, from July to September 1993.

#### **DATA PROCESSING AND ANALYSIS**

The completed questionnaires were processed using the Foxbase programme. Data validation was done by using Epi-Info programme. SPSS/PC and Shazam programmes were used to analyze the data and perform statistical tests.

To answer the primary research question, the level of the intentions of nurses to take care of HIV-infected patients, the data was computed by descriptive statistics such as mean, standard deviation, frequency and proportional parameters.

For the secondary research question, each independent variable was analyzed by the following procedures;

1. Chi-square test was used to compare between the intention to take care and demographic factors,

2. Pearson's coefficient of correlation was used to examine interactions among the intention and each independent variables, and

3. Multiple regression was used to establish aggreg-ative effects of multiple independent variables on the intentions. The variables that entered into the regression equation are shown in the figure 3.1 below.

**Figure 3.1 Variables which Entered into Stepwise  
Multiple Regression Model**

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1. Job satisfaction
  2. Fear of AIDS
  3. Knowledge about AIDS
  4. Experience or skill about taking care
  5. Hospital policy about AIDS patient care
  6. Difficulty of following Universal Precaution practice
  7. Age
  8. Occupational period
  9. Marital status
  10. Experience in caring for HIV-infected patient
  11. Direct exposure to patient's exudate
  12. In-service accident
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For qualitative variables, "dummy variables" were used to incorporate them in the regression model and were able to provide a better estimate.

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