CHAPTER III

RESEARCH METHODS

This research consists of two groups of quasi-experimental research, and focuses on the study of the result of the systematic health education program toward to level of pre – operation anxiety of the abdominal surgical patients with the model designed by weerapon Suwannan (1990 : 34)

Before		After
O^E_{t+1}	$\times$	O^E_{t+1}
O^C_{t-1}	—	O^C_{t+1}
x	=	Giving the systematic health education program
O^E	=	The experimental group
O^C	=	The control group
t-1	=	Measuring the anxiety before giving the program
t+1	=	Measuring the anxiety after giving the program

The Population and the Sample Group

Population

The population is the abdominal surgical patients admitted at Thungsong Hospital, Thungsong District, Nakornsithamarat, from July to November 2003. The patients have the following qualifications :

The patients' operations were caused by non acute appendicitis, cholecystitis, and gallstone.

1. The patients were 20 years old or more.

2. The patients had no hearing or speaking problems.

3. The patients were diagnosed and considered by the doctors that they had no neurotic and psychotic background.

4. The patients were not prescribed an anxiety suppressant or tranquillers before or after the surgical nurses' visit.

5. The patients had no operative background or never know how to practice reducing anxiety.

6. The patients were willing and pleased to co-operate in this research.

The Sample Group

To regulate the size of the sample group, the researcher has calculated by using the formula to figure out the size of population group in case that there is no limit of the population.

$$n = \frac{Z^2 S^2}{d^2}$$

n   =   the number of the population

S^2 =   the variable of the population from doing the pilot study of 20 patients

Z^2 =   Derived from the opening mean of Z at the $(1 - \alpha)$-100% validity level, which is $\alpha = .05$ and $Z = 1.96$ hereby

d^2 =   The mean of the discrepancy which is .05 hereby.

It is substituted by this formula:

$$n = \frac{Z^2 S^2}{d^2}$$

$$n = \frac{(1.96)^2(.17)^2}{(.05)^2}$$

$$= 57.9$$

$$= 58 \text{ patients}$$

The formula above determines the size of the sample group, which consisted of 58 patients. After obtaining the sample group, the researcher divided them into two group with 60 patients each, whose characteristics are as similar as possible in the following issue :

1. The same gender.

2. The age gap was not over 5 years.

3. The levels of education were divided into four group : primary, high school, diploma, and Bachelor's degree or higher.

4. The patients developed the same kind of diseases.

5. The patients had to undergo the same kind of operation or close to it.

Dividing the sample group into the experimental and control group was carried out by drawing lots. The patients with the odd numbers belongs to the experimental group, and the ones with the even numbers belonged to the control group with 60 patients in each group, totaling 120 patients.

The Research Instruments

The instruments used in this research was as follows :

1. Making teaching plans

The researcher studied the details of making teaching plans from various handout , and textbooks by qualified scholars in depth , and made use of them by designing 4 teaching plans. Each teaching plans consisted of teaching activities , learning / teaching materials , and the evaluation and the assessment.

2. Collecting the contents

2.1 The researcher studied the content and the details about the methods of skill practices, relaxation, pre- operative preparations, post-operative self- practices, and the post- operative self- practices after going home.

2.2 The researcher adapted the collected contents and submitted them to the advising committee.

2.3 The contents approved by the thesis advisors were submitted to be corrected by three content experts.

2.4 According to the three experts, the contents were re-adapted and submitted to be re- examined by the thesis advisors.

2.5 The contents re- approved by the thesis advisors were submitted to be re- edited by the content experts.

2.6 Some of the contents were printed into brochures used as teaching aids in the lesson plans

3. The data-collecting instruments

The data-collecting instruments were the models used to measure the patients who were waiting for an operation. The researcher made up the models based on Spiel Berger's ideas, which consisted of four parts namely;

<u>Part I</u>

The model consisted of the patients' personal data : gender, age, marital status, religion, educations, occupation, monthly family income, and disease diagnoses.

<u>Part II</u>

1. State Anxiety Inventory (SAI) The State Anxiety Inventory is a part of the State-Trait Anxiety Inventory, which was developed by Spielberger in 1977. It was designed to be self- administering, consisting of twenty statements that evaluate how the respondents feel at this moment.

Scoring of SAI : Each SAI item was given a weighted score of 1 to 4 ranging from "not at all" to "very much so." The State-anxiety score varies from a minimum of 20 to a maximum of 80. Raw score was obtained by the sum of the weighted scores of subjects in each item while average rating score was obtained by rating using the total raw score divided by the number of responded items.

The SAI is a moment anxiety measure. The alpha coefficient for internal consistency of SAI was 0.92 in the normative samples. The validity of SAI was estimated by correlating the score with Taylor's MAS. Using 126 college women, the coefficient were 0.80, while foe 80 college men the coefficients were 0.79 (Spielberger et al. 1977; Spielberger et al., 1983).

In Thailand, The SAI in 1977 has been translated from English language to Thai language by Assist. Prof.Bunpen Juntavatana. It was tested for content validity by four expert. This instrument measured anxieties of ten mother who first received hospitalization.The alpha coefficient was .92. Moreover, Silprasert P. (2000:41) assessed the anxieties of 60 parents in a neonatal intensive care unit by SAI and the alpha coefficient obtained was .80.

2. The content validity of the anxiety-measuring model of the patients waiting for an operation was then corrected by 3 experts. Later it was adapted and improved according to their advice.

3. The anxiety-measuring model was applied to test the anxiety of 40 patients waiting for abdominal surgery at Thungsong Hospital, Nakornsithamarat. It was later calculated with the Cronbach' s alpha co- efficient method to find the reliability mean with the statistic significance at the level of .75.

Part III

The Post- operative complication check list consisted of 6 items, enquiring about the respiratory, digestive, blood circulating, urinary, fever and operative wound complications.

This Post- operative check list them was checked and corrected by 3 content experts to find out any unnecessary errors before it was actually applied to test the patients.

Part IV

The patients' opinions toward the operating room services was made up by the following step :

The researcher made up the questionnaires enquiring about the patients' satisfaction toward the services of the operating room by applying 5 levels of rating scale namely :

Lowest	= 1	point
Low	= 2	point
Moderate	= 3	point
High	= 4	point
Highest	= 5	point

The researcher regulated the range the standard deviation to compare with the mean of each calculated item namely :

Lowest   = 1.00-1.49

Low   = 1.50-2.49

Moderate   = 2.50-3.49

High   = 3.50-4.49

Highest   = 4.50-5.00

1. The questionnaire asking about the opinions toward the services of the operating room consisted of 7 items namely :

    1.1   Were you satisfied to be able to easily contact the surgical personnel?

    1.2   Were you satisfied with the surgical personnel' attention and verbal politeness?

    1.3   Were you satisfied with the surgical personnel enthusiastic assistance?

    1.4   Were you satisfied with the surgical personnel' s prompt services?

    1.5   Were you satisfied when the surgical personnel provides you with the knowledge on diseases, the stages of an operation, the objectives of the operation, and the post- operative self- practices?

    1.6   Were you satisfied when you were closely taken care of by the surgical personnel?

    1.7   Were you satisfied when the surgical personnel help you to reduce the pre – operative anxiety?

2. The questionnaires checking the patients' satisfaction toward the services of the operating room was examined by the thesis advisors, and then were adapted and improved due to their advice.

3. The questionnaires checking the patients' satisfaction toward the services of the operating room were applied to test the satisfaction of 40 abdominal patients who didn't belong to the experimental group, and then the output was analyzed to find that the reliability value with the statistic significance was at .79 level. Then they were actually applied with the patients

4. The researcher designed applied with the patients. Health education brochures which consisted of the following contents and illustrations :

   - Anxiety relaxation practices.

   - The patients' pre – operative preparation.

   - The post – operative self- practices.

   - The post – operative self- practices at home.

   4.1 The content validity of the systematic health education program brochures was then checked by three experts, and later adapted and improved to suit their advice.

   4.2 The systematic health education program brochures were applied with 40 abdominal patients to check their understanding on the explanations and illustrations, and then were adapted and improved before they were actually applied with the patients.

Collecting Data

Collecting data consisted of the following steps :

1. The researcher asked for the permission from the Director of Thungsong Hospital of collect data.

2. The researcher selected one assistant researcher and taught him / her how to collect data.

3. The researcher listed the names of the patients admitted at surgical ward, and selected the ones with the eligible requirements.

4. The researcher introduced himself / herself and the assistant researcher to the patients, informed then the objective of the research and asked for their co- operation in answering the questionnaires.

5. Collecting the data from the experimental group and the control group consisted the following step.

The Experimental Group

1. The researcher greeted the patients, introduced himself / herself of the patients, total them about the reasons for seeing them, and asked for their co- operation in doing this research.

2. When the patients gave permission to him / her, he / she began to record the personal data based on the personal data-collecting form which he/she had prepared.

3. The researcher asked then the questions about anxiety by using the state anxiety or A-state model, and he/she had to record the data by himself / herself.

4. The researcher provided the patients with the heal education program, demonstrated the way to relax the anxiety, and helped them to practice relaxing anxiety by themselves.

5. The researcher gave out the health education brochures to the patients as a self- practice manual.

6. After the researcher had given the systematic health education program to the patients for 6 – 12 hours before the operation, he / she had to ask the patients about their anxiety again by using the state anxiety or A- State model, and he/ she had to recorded the data by himself / herself.

7. After the operation, the researcher had to record the complication – recording form, and asked for their opinions toward the health education service.

The Control Group

1. The researcher introduced himself / herself and the assistant researcher to the patients. Informed them the reasons for seeing them, and asked them for their co – operation in doing the research.

2. When the patients agreed to the request, the researcher stated to record their personal data based on the prepared personal data – recording form.

3. The researcher asked the patients about their anxiety by using the state anxiety or A - State model, and he / she had to record the data by himself / herself.

4. The control group was given general health education program by the routine nursing personnel.

5. After the routine nursing personnel had given the patients the health education program for 6-12 hours before the operation, the research asked

them again about their anxiety by using the state anxiety or A- State model and he/ she had to record the data by himself / herself.

6. After the operation, the researcher recorded the complication states of the patients.

The Data Analysis

The data were analyzed by SPSS computer program as follows :

1. The patients' personnel data were calculated to find the average mean and the percentage and tested to find the difference by using the Chi – square

2. The anxiety – measuring form for the patient waiting for an operation was calculated to find the percentage, the mean and the frequency.

3. The difference of the level of pre- operative anxiety of the abdominal patients before and after the experiment was compared between the experimental group and the control group by using the Independent t-test.

4. The post- operative complication-checking form who calculated to find the frequency, the percentage, and tested to find the mean of Chi- square.

5. The questionnaires checking the patients' opinions about the operating room services were calculated to find the percentage, the frequency and the mean.