

## CHAPTER 3

### RESEARCH METHODOLOGY

This descriptive study aimed to explore and describe factors associated with breast cancer screening practices in healthy Thai women.

#### Population and Sample

The population in this study was healthy women who visited their relatives or friends in Songkhla Hospital, where a large number of Thai Buddhists and Thai Muslims are admitted. The method to calculate the number of the sample size was using subjects and independent factors (Viratchai, 1995) as follows:

n 20 subjects x independent factors (if  $n > 100$ )

n 20 x 14

n 280

In this study the researcher used  $n = 300$ .

The subjects in this study were selected by using simple random sampling to select one from every three subjects that the researcher met each day. The researcher collected the data from January to April 2002.

The following criteria were used for sample selection:

1. Healthy women aged 20 to 60 years old.
2. Able to understand and speak the Thai language.
3. Willing to participate in this study.

## **Setting**

The setting for this study was outpatient clinics and in-patients units of Songkhla Hospital in Songkhla province, Thailand.

## **Instrumentation**

This study used a questionnaire with closed-ended questions comprised of 4 parts.

### ***Part 1. Demographic Data Questionnaire***

The demographic data questionnaire consisted of information related to the participant's age, religion, marital status, educational background, occupation, income, history of breast problems, family history regarding cancer or breast cancer, and receiving information resources (Appendix C).

### ***Part 2. Breast Cancer Screening Practices for Early Detection Questionnaire***

This part consisted of questions assessing two aspects of BCSP, namely BSE practices and their related and intention to have mammography.

1) Breast self-examination practices and their related: 8 items that assessed the frequency of breast self-examination in the previous year (items 1, 2, 3), the experience of finding lumps or abnormal signs (item 4), what they did if they found abnormal signs (item 5), the support they got from family and social for breast self-examination (items 6, 7), and the physician's recommendation to do BSE (item 8).

2) Intention to have mammography. Four items were assessed which included, have they ever heard about mammography (item 9), the physician's recommendation

to do mammography (item 10), intended to have mammography during this year or not (item 11), and whether they had ever had a mammography (item 12).

### ***Part 3. Knowledge about Breast Cancer and BSE***

This questionnaire regarding knowledge about breast cancer and BSE was modified from the HBM (Strecher & Rosenstock, 1997). It consisted of 17 questions regarding knowledge about breast cancer and BSE practice.

Question 1 was about knowledge of risk factors related to breast cancer. Questions 2-6 were about general knowledge of breast cancer, questions 7-15 tested knowledge about BSE and questions 16-17 tested knowledge about treatment. Question 1 consisted of 6 sub-items. Participants were asked to choose “yes” or “no” as the answer to each sub-item. A correct answer was scored as 1 and an incorrect answer was scored as 0. Each sub-question had one score, so the total score of question number 1 was 6.

For questions 2-17, each questions had 5 choices. The last choice was “don’t know”, which was added in order to discourage the participants from guessing. The participants were asked to choose only one choice that was the correct answer or choose “don’t know” for questions they did not know. The correct answer was scored as 1 and incorrect answer or “don’t know” was scored as 0. Each question had one score. Therefore, the total score of this part (question 1-17) ranges from 0-22.

The total score for knowledge about breast cancer and BSE and each type of knowledge was divided into 3 levels by using  $\bar{X}$  and S.D. as follows:

The total score of knowledge  $\geq \bar{X} + \text{S.D.} = \text{high} (\geq 13)$ ,

The total score of knowledge between  $\bar{X} \pm \text{S.D.} = \text{moderate}$  (between 6-12),

and the total score of knowledge  $\leq \bar{X} - \text{S.D.} = \text{low} (\leq 5)$ .

#### ***Part 4. Individual Perceptions Questionnaire***

This individual perceptions questionnaire was modified from the HBM. It was developed for assessing 4 aspects of individual perceptions, which were; 1) perceived risk of breast cancer, 2) perceived severity of breast cancer, 3) perceived benefits of BCSP, and 4) perceived barriers of BCSP. Each item had a five-point Likert scale ranging from 1, strongly disagree to 5, strongly agree. There were 23 items. Therefore, the total score of this part ranges from 23-115.

1. Perceived risk; 4 items, score from 4-20
2. Perceived severity; 6 items, score from 6-30
3. Perceived benefits; 4 items, score from 4-20
4. Perceived barriers; 9 items, score from 9-45

The total score and sub-aspects of this part were divided into 3 levels, which were low, moderate, and high. The higher the scores, the higher the perceived risk and severity of breast cancer, perceived benefits and barriers of BCSP. The researcher divided the total score by using  $\bar{X}$  and S.D. into 3 groups as follows:

The total score of individual perceptions  $\geq \bar{X} + \text{S.D.} = \text{high} (\geq 83)$ , the total score of individual perceptions between  $\bar{X} \pm \text{S.D.} = \text{moderate}$  (between 61-82), and the total score of individual perceptions  $\leq \bar{X} - \text{S.D.} = \text{low} (\leq 60)$ .

## **Test of Validity and Reliability**

### **Test of Validity**

The questionnaire was constructed in the Thai language for data collection and was evaluated for content validity, language suitability, and criteria for scoring of the entire questionnaire by a panel of 5 experts, including 1 Obstetric-Gynecologist, 1 oncology nurse, and 3 nurse instructors who were experts in cancer care. The Thai language version tools were tested with 20 healthy women who had similar characteristic to the samples.

### **Test of Reliability**

Kuder Richardson-20 (KR-20) was used in part 3 and Cronbach's alpha coefficient was used for Likert scale only in part 4 (Appendix D).

After applying these stated formulas, the reliability coefficient for part 3 was .86, and for the part 4 questionnaires, the reliability coefficient for perceived risk and perceived severity of breast, perceived benefits and perceived barriers of BSE, and individual perceptions were .86, .89, .79, .82 and .84 respectively.

### **Protection of Human Subjects**

Before starting the interviews or collecting the data (from a subject who wanted to do a questionnaire by herself), the researcher asked for permission from the subjects by giving a set of statements telling the purposes of the study, assuring the subject's

anonymity, the voluntary nature of participating in the study, freedom to withdraw from the study at any time, the benefits of the findings for the nursing profession, a consent form, and name and contact address of the researcher. Only the researcher had access to this information and the coding of the variables (written documentation describing the exact definition of the various categories used to encode the data). Subjects were assured that their identities would remain confidential.

## **Data Collection**

After receiving permission from the Faculty of Graduate Studies, Prince of Songkla University, data collection was carried out from January to April 2002. The procedure was as follows:

### **1. Preparation phase.**

1.1 Informed the director of Songkhla Hospital about the research program and got permission to collect the data from Songkhla Hospital.

1.2 Described the objectives and expected research outcomes to the head nurse of Songkhla Hospital. Selected the samples that met the criteria by simple random sampling in Songkhla Hospital from January to April 2002.

### **2. Identification of subjects.**

2.1 The researcher introduced herself to the potential subjects. To reduce bias, only one subject from every three subjects that the researcher met was used as a sample.

2.2 Three hundred healthy women were selected according to the inclusion criteria.

2.3 Informed consent was obtained for protection of human rights (Appendix B).

3. Collection of data by face-to-face interview (except for 14 healthy women who were given the questionnaire to do by themselves).

3.1 Informed the subjects of the purpose of this study, the time required from them assurance of confidentiality, anonymity, and freedom to withdraw from the study at any time. A verbal explanation was given when there were any questions about the questionnaire.

3.2 To assure the subjects' understanding of the entire questionnaire, after the subjects agreed to participate in the study, the researcher explained the questionnaire and allowed time for the subjects to complete the questionnaire, and for someone who wanted to do a questionnaire by herself. The subjects were required to answer all questions and all communicated in Thai.

4. Checking all questions and answers before leaving the subjects.

5. Checking all items and preparing data for analysis to ensure data completion.

## **Data Analysis**

All obtained data were analyzed by using the Statistical Package for the Social Sciences for Windows (SPSS/ FW) program. The following statistics were used:

### 1. Descriptive statistics.

1.1 Demographic data were analyzed by using frequency, percentage, range, means, and standard deviation.

1.2 Knowledge about breast cancer, BCSP questions and individual perceptions were analyzed using range and means.

2. Chi-square statistics were used to identify the association between various factors and breast cancer screening practices (BCSP). The various factors such as age, religion, educational level, income, socioeconomic status, knowledge about

breast cancer and breast cancer screening, physician's recommendation to do BSE and mammography, family history with cancer or breast cancer, receiving information resources, family encouragement, social encouragement, and individual perceptions (perceived risk and severity of breast cancer, perceived benefits and barriers of BSE) were selected to identify association with breast cancer screening practices in healthy women by using Cramer's V (Appendix D).

The reports were finally translated into English after the data analysis and validated by advisors.