

## **CHAPTER 3**

### **METHODOLOGY**

The purposes of this study were to identify the family support and self-care behaviors, and to examine the relationship between family support and self-care behaviors of breast cancer patients receiving combined therapy in Beijing, People's Republic of China. In order to meet these objectives, the following research methodology was used in this study.

#### **Design of the Study**

A descriptive correlational design was used in this study to identify the family support and self-care behaviors, and to examine the relationship between family support and self-care behaviors in breast cancer patients receiving combined therapy.

#### **Population and Sample**

The target population of this study was the breast cancer patients after mastectomy and received radiotherapy at the outpatient departments of the six university hospitals in Beijing, People's Republic of China. The

six hospitals were Beijing Oncology Hospital, the First, Second and Third Teaching hospitals of Beijing Medical University, Beijing Friendship Hospital, and Oncology Hospital of Peking Union Medical College. The sample size was 61.

The purposive sampling were used in this study. The criteria for eligibility included follows.

1. Chinese woman aged 18 years and older with diagnosis of breast cancer;
2. Undergoing modified radical mastectomy;
3. Experiencing at least 2 weeks of postmastectomy radiotherapy;
4. Willing to participate in this study;
5. Able to speak and understand Chinese;
6. Living with the family members during the course of receiving combined therapy.

#### **Instrumentation**

The instruments of this study included three parts: the Demographic Data Form, the Modified Self-Care Behavior Questionnaire (MSCBQ) and Modified Perceived Social Support from Family (MPSS-Fa) Scale. The instruments were described as follows.

##### **Part I: Demographic Data Form**

The demographic data form was used to collect data such as age, marital status, family members, family role, educational background,

occupation, income, way of medical payment, presence of other chronic illness, stage of cancer, amount of radiotherapy and present treatment.

#### **Part II: Modified Self-Care Behavior Questionnaire (MSCBQ)**

The Modified Self-Care Behavior Questionnaire was modified from the Self-Care Behavior Questionnaire (SCBQ) developed by Hanucharurnkul (1988).

The original SCBQ has 47 items. The first 35 items for cancer patients receiving radiotherapy, 6 items for cervical or head/neck cancer patients respectively. In this study, SCBQ was modified to be suitable to breast cancer patients receiving combined therapy. The MSCBQ kept the first 35 items and deleted the items for cervical and head/neck cancer patients. The seven items for breast cancer patients were added in MSCBQ. The final MSCBQ had 42 items as follows.

- . Fifteen items, from item 1 to item 15, represented the behaviors to meet universal self-care requisites;

- . Twenty-seven items, from item 16 to item 42, represented the behaviors to meet health deviation self-care requisites.

- . Eleven items, from item 25 to item 35, represented the psychological self-care behaviors.

- . Thirty-one items, including items from item 1 to item 24 and items from 36 to item 42, represented the physical self-care behaviors.

Scoring of MSCBQ: 1 = never, 2 = sometimes, 3 = about half the time, 4 = often, 5 = always. The reversed scoring method was used for negative items. The possible range of score was 42 - 210. The average

rating score was decided by using mean score divided by the number of items. The amount of self-care behaviors was judged as the more or less by the average rating scores according to the following criteria:

1.00 -2.99 : less amount

3.00 -5.00 : more amount

### **Part III: Modified Perceived Social Support from Family (MPSS-Fa) Scale**

The Modified Perceived Social Support from Family Scale was modified from the Perceived Social Support from Family (PSS-Fa) Scales developed by Procidano and Heller (1983). The PSS-Fa is intended to measure the extent to which an individual believes that his/her needs for support, information and feedback are fulfilled by family.

The original PSS-Fa scale consists of 20 statements, to which the individual responds to three response alternatives: "Yes," "No," and "Don't know." For each item, the response indicating perceived family support is scored as 1, i.e., scores from 0, which indicates no perceived family support, to 20, which indicates maximum perceived family support. The "No" and "Do not know" response are scored as 0. Considering the subjects who might give more responses of "Don't know" could not be included in the study, the alternatives "Don't know" were taken out in the MPSS-Fa. Therefore, there were two alternatives in MPSS-Fa, "Yes" or "No". Some items in the PSS-Fa which were not suitable to breast cancer patients receiving combined therapy were deleted. There were 15 items in the MPSS-Fa.

Scoring of PSS-Fa: "Yes" for positive items or "No" for negative items were scored as 1, "No" for positive items and "Yes" for negative items were scored as "0". The possible range of score was 0-15. The higher score indicated more family support. The average rating score was decided by using mean score divided by the number of items. The amount of family support was identified as the more or less by the average rating scores according to the following criteria:

0.01 - 0.49: less amount

0.50 - 1.00: more amount

#### Content validity and reliability of the instruments

Content validity and reliability of MSCBQ and MPSS-Fa were tested before collecting data. Content validity of MSCBQ and MPSS-Fa were reviewed by experts. The content validity of English versions of MSCBQ and MPSS-Fa was examined by four nursing experts in Chiang Mai University, Thailand. The validators consisted of one expert in nursing theory, one expert in psychiatric nursing, one nursing instructor, and one radiotherapy nurse. The content validity of MSCBQ was examined by all experts but the one who is a nursing instructor. The content validity of MPSS-Fa was also examined by all nursing experts but the one who is a radiotherapy nurse. The instruments were revised according to the suggestions of the experts. The English versions of MSCBQ and MPSS-Fa were translated into Chinese versions by the investigator. The Chinese versions of MSCBQ and MPSS-Fa were reviewed by a master prepared nursing educator in Beijing medical University who is bilingual for accuracy, clarity and readability

using the method of backtranslation. The content validity of the instruments was also reviewed by two experts in oncology and one expert in oncology nursing from Beijing Medical University.

The reliability of MSCBQ was tested using Cronbach's alpha. The reliability of MPSS-Fa was tested using Kuder-Richardson 21 (KR-21). The testing was done in 10 breast cancer patients receiving combined therapy who met the eligible criteria of sampling in this study. The 10 patients were selected from Beijing Oncology Hospital, the First and the Second Teaching hospitals of Beijing Medical University. The 10 patients were interviewed by the investigator guided by the instruments. The Cronbach's alpha and alpha of KR-21 were determined using Statistical Package for Social Science (SPSS). The Cronbach's alpha value of MSCBQ was .85 and alpha value of KR-21 of MPSS-FA was .90 which were considered as acceptable (Polit & Hungler, 1991).

#### **Data Collection Procedure**

Data collection was carried out from December, 1996 to February, 1997. Data were collected by the method of interview. Data collection procedures were described as follows.

1. Obtaining the permission from the administrators of hospitals and the heads of outpatient departments of radiotherapy in which data were collected;
2. Identify the women who met the eligible criteria by reviewing the medical records of radiotherapy departments;

3. Giving verbal explanation (Appendix A) to the identified women by the researcher to obtain their consent of participation, including explaining the purpose of the study, assuring the confidentiality, anonymity and freedom of withdrawal from the study at any time to the woman;

4. Interviewing the eligible women by the researcher guided by the questionnaires;

5. Coding the questionnaires according to the entering sequence of the subjects into the study instead of using the patients' name;

6. Recording the medical information by the researcher through reviewing the medical records;

7. Preparing the questionnaires for data analysis;

8. The interview for each subject lasted between 20-40 minutes.

#### Analysis of Data

Statistical Package for Social Science (SPSS) was used for data analysis. The procedures were carried out according to the objectives and the level of measurement of the variables. The data analysis procedure were divided into four parts.

1. Demographic data were analyzed using frequency and percentage. The mean and standard deviation of age, family members, the amount of radiotherapy were calculated.

2. Scores of family support were analyzed using mean and standard deviation.

3. Scores of self-care behaviors were analyzed using means and standard deviations.

4. The relationship between family support and self-care behaviors were analyzed using Pearson's product-moment correlation coefficient.

5. The significant level was set at .05.