

## CHAPTER 3

### METHODOLOGY

The purpose of this study was to describe quality of life (overall, health and functioning, psychological/spiritual, socioeconomic, and family) among mastectomy patients receiving radiotherapy.

#### Design of the study

A prospective study longitudinal design: Panel studies was used in this study to describe quality of life of mastectomy patients receiving radiotherapy.

#### Population and Sample

The target population of this study was mastectomy patients receiving radiotherapy at outpatient department of three major teaching hospitals in Beijing, People's Republic of China, namely, Oncology Hospital of PUMC, The First and Second Teaching Hospital of BMU. The sample size in this study was 20.

The purposive sampling was used in this study. The criteria for eligibility included the following:

1. Underwent modified radical mastectomy.

2. Scheduled for receiving the first course of radiotherapy
3. Be able to communicate in Mandarin.
4. Willing to participate in the study.

### **Instrumentation**

The instrument used for data collection was a questionnaire composed of two parts: 1) demographic data form, and 2) Quality of Life Index-Cancer Chinese Version.

#### **1) Demographic data form**

The demographic data form includes basic information and characteristics of the subjects' age, marital status, educational background, family pattern, occupation, family income, way of medical payment, presence of other illness, stage of cancer, amount of radiotherapy, length of treatment, and number of time receiving radiotherapy.

#### **2) Quality of Life Index-Cancer Chinese Version**

The Quality of Life Index-Cancer Version (QLI-CV) was developed by Ferrans and Powers in 1984. It is a 6-point (1 to 6) rating scale, which consists of two parts. The first part, measured satisfaction in various domains of life, consists of 34 items, and the second part measures the important of the same domains to the subject. The QLI-CV includes 4 domains. The health and functioning subscale,

psychological/spiritual subscale, socioeconomic subscales, and family subscales consist of 14, 7, 9, and 4 items, respectively (Appendix C).

Ferrans and Powers QLI-CV was modified from Ferrans and Powers QLI based on an extensive review of the oncology literatures, which supported content validity. The internal consistency reliability of the entire QLI ( $\alpha=.95$ ) and of the four subscales, health and functioning, socioeconomic, psychological/spiritual, and family ( $\alpha=.90$ ,  $.84$ ,  $.93$ , and  $.66$ , respectively) (Ferrans, 1990). The concurrent validity was provided by a strong correlation ( $r=.80$ ) between the QLI and a measure of satisfaction with life. Construct validity was provided by significantly higher mean QOL scores for subjects who had less pain, less depression, and were coping better with stress, using the known group technique (Ferrans, 1990).

Scores are calculated by weighing each satisfaction response with its paired importance response. Hence, scores reflect individual values as well as satisfaction, producing a more accurate reflection of quality of life. This weighing produces the highest scores for combinations of high satisfaction/high importance responses and the lowest for high dissatisfaction/high importance responses. Weighing with low importance responses produces middle-range scores. The

rationale for this weighing scheme is the belief that people who are highly satisfied with the areas of life they value enjoy a better quality of life than those very dissatisfied with the areas they value. Score are calculated by centering the scale on zero for satisfaction items, multiplying paired satisfaction and importance responses, summing the resultants weighted items, dividing by the number of items answered, and adding 15 to every score to eliminate negative values. The same steps are used to calculate overall quality of life scores and four subscale scores. The subscales reflect quality of life in four life domains, health and functioning, psychological/spiritual, socioeconomic, and family. The range possible for the overall scores is 0 to 30 as well as the individual scores in each subscale.

#### **Content validity and reliability**

Since content validity of QLI-CV was supported by studies (Belec, 1992; Ferrans & Powers, 1993; Hicks, Larson, & Ferans, 1992), it was not checked again for this study.

The QLI-CV was developed in English and was standardized on western country population, but it has never been used in Chinese cancer population. Thus, after it was translated into Chinese by the researcher, it was checked by Chinese linguistic experts, and back translated from Chinese to English by the experts at PUMC.

Cronbach reliability of QLI-CV was tested among 20 mastectomy patients receiving radiotherapy who had the similarity as the eligible criteria of sampling in this study. Internal consistency reliability coefficient of the total instrument was .88 (n=20). For the subscales of health and functioning, psychological/spiritual, socioeconomic, and family were .78, .85, .78 and .82, respectively.

#### **Data Collection procedure**

Data collection was carried out from December 1997 to February 1998 as following.

1. Getting approval from the Graduate Committee of the Faculty of Nursing at Chiangmai University, Thailand.
2. Permission of accessing to the possible subjects were obtained from administrators of hospitals and the heads of outpatient departments of radiotherapy where data were collected.
3. Subjects who meet the eligible criteria were recruited and were asked for willing to participate in the study.
4. Protecting of human rights for the subjects were assured as follows:

4.1 Using a coding system to identify mastectomy patients receiving combined therapy individually to protect the identity of the subjects.

4.2 Subjects were informed confidentiality, assurance, and the purposes of the study by researcher.

4.3 The proposed subjects were asked for their willingness to participate in this study.

4.4 Data was secured during the study. They were assessed to only by the researcher for the purpose of the study.

4.5 Subjects were free to participate and/or withdraw from the study at any time.

5. Subjects filled out the forms by themselves. If they could not read and write, the researcher read through the questionnaire and filled out the form according to the responses of the subjects.

6. Data was collected on the first day of therapy before having the radiotherapy and later once a week until the end of the course of the treatment which lasted 5 weeks.

#### **Analysis of data**

Statistical Package for Social Science (SPSS) was used for data analysis in this study.

1. Descriptive analysis in terms of frequency and percentage were used to describe the demographic data of subjects. The demographic data includes age, income, the amount of radiotherapy were presented as mean and standard deviation.

2. Frequency, percentage, mean and standard deviation were computed to analyze scores of QLI-CV as total score as well as subscale scores in order to fulfill the objective.