CHAPTER 4

FINDINGS AND DISCUSSION

This prospective study longitudinal design was conducted to describe the quality of life (overall, health and functioning, psychological/spiritual, socioeconomic, and family domain) among mastectomy patients receiving the first 5-week radiotherapy.

Findings

Twenty mastectomy patients who met the eligible criteria were selected. The findings from this study were presented into two parts:

Part I Demographic data

Part II Quality of life (overall, health and functioning, psychological/spiritual, socioeconomic, and family domain)

Part I Demographic data

Twenty mastectomy patients were recruited from Oncology Hospital of PUMC, the First, and the second Teaching

Hospital of BMU. The detailed demographic characteristics of the subjects were presented in Table 1-4.

Table 1 Frequency, percentage, mean and standard deviation of the subjects' demographic characteristic age, educational background, marital status, family pattern, and family relationship)

Demographic Characteristics	Frequency (n=20)	Percentage (%)	Mean	S.D
Age (years)			48.70	9.71
33-39	3	15		
40-49	8	40		
50-59	6	30		
60-65	3	15		
Educational Background				
No education	2	10		
Primary school (1-6 grades)	1	5		
Middle school (7-9 grades)	5	25		
Senior high school (10-12 grades)	6	30		
University	6	30		
Marital Status				
Single	1	5		
Married	18	90		
Divorced	1	5		
Family Pattern				
Lived with parent	2	10		
Lived with husband	8	40		
Lived with husband and children	10	50		
Family relationship before the treatment				
Good	18	90		
Fair	2	10		

Table 1 showed that age of subjects ranged from 33 to 65 (mean=48.70, SD=9.71) and the majority of the group (40%) of the subjects were in their forties. Their educational background ranged from illiterate to university level. There were five subjects (25%) finished middle school study. More than half of them (60%) were above the senior high school (10-12 grades) level. Only two subjects (10%) had no education. Most of the subjects were married (90%), only one single (5%), and one divorced (5%). All of the subjects lived with their family. Most of them lived with their husbands (80%) and of these, half of them have children. The single and divorced ones (10%) lived with their parents. Most of them (90%) have good family relationship before the treatment while the rest of them have fair relationship.

Table 2 Frequency, percentage, mean, and standard deviation of the subjects demographic characteristics occupation, family income, and way of payment)

Demographic Characteristics	Frequency (n=20)	Percentage (%)
Occupation		
Government officer	5	25
Teacher	2	10
Farmer	2	10
Worker	2	10
Scientific staff	1	5
Retire	4	20
Unemployed	4	20
Family income		
<500	5	25
501-800	5	25
801-1,000	3	15
1,001-1,500	5	25
>1,501	2	10
Way of payment		
Total reimbursed or insurance	13	65
Partial reimbursed	4	20
Total self paid	3	15

Table 2 showed that there were 50% of the subjects were employed, 20% were retire, 10% were farmer, and 20% were unemployed. One-fourth of subjects reported that their family income were less than 500 yuan per month, and only 10% were more than 1,501 yuan per month. In addition, there were 65% of them received total reimbursement or insurance, 20% partial reimbursement. Within this group, the subjects had to pay by themselves more than half of the payment. There was 15% had to pay by themselves totally while their family income less than 500 yuan per month.

Table 3 Stage of cancer, and presence of other illness of the subjects

Demographic Characteristics	Frequency (n=20)	Percentage (%)
Stage of cancer		
I	4	20
II	12	60
III	4	20
Presence of other illness		
Yes	6	30
No	14	70

Table 3 revealed most of subjects (80%) were in early stages of cancer (I and II) which 20% was in stage III. Some of subjects (6, 30%) reported the presence of other illness, namely hypertension (3, 15%), cholelithiasis (1, 5%), myoma uteri (1, 5%), and cerebral arteriosclerosis (1, 5%).

Table 4 Average accumulative amount of radiotherapy over time

Week of therapy	before treatment	1	2	3	4	5
Amount (rads)	0	1,150	2,300	3,450	4,600	5,750

Table 4 showed average amount of radiation received by the subjects over time within the 5-week therapy. In each week, subjects received 5 times of radiation with average accumulative amount of 1,150 rads/week. In one course of radiotherapy, each subject received total average accumulative amount of radiation of 5,750 rads.

Part II Quality of life (overall, health and functioning, psychological/spiritual, socioeconomic, and family domain)

To describe quality of life (overall, health and functioning, psychological/spiritual, socioeconomic, and family domain) among mastectomy patients receiving radiotherapy, the score of quality of life were obtained from the subjects' response. It started from before treatment and once a week throughout the 5-week course of therapy as presented in Table 5 and Figure 1.

Table 5 Mean and SD of quality of life of subjects receiving radiotherapy (overall, health and functioning, psychological/spiritual, socioeconomic, and family domain) (n=20)

Variable	0		1		2		3		4		5	
	Mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD
Overall	20.05	3.84	20.10	3.51	19.81	3.69	20.20	3.05	20.06	3.84	20.44	3.84
HF	18.99	3.67	19.23	3.43	18.82	4.13	19.42	3.43	19.34	3.94	19.84	4.18
PSP	18.45	4.63	18.50	4.37	19.21	4.02	19.10	3.56	19.27	4.61	18.93	4.73
SOC	21.83	5.07	21.47	5.09	20.73	4.97	21.19	3.56	21.06	4.61	21.58	4.73
FAM	22.58	6.12	22.87	4.99	22.23	4.55	22.59	4.92	21.71	5.26	22.62	4.23

Table 5 showed that the mean score of quality of life (overall, health and functioning, psychological/spiritual, socioeconomic, and family domain) of 20 subjects across the 5-week therapy was presented in Table 5. The possible score for QOL was from 0 to 30. The mean overall score ranged from 19.81 to 20.44. The mean score for health and functioning, psychological/spiritual, socioeconomic, and family domain were ranged from 18.82 to 19.84, 18.45 to 19.27, 20.73 to 21.83, and 21.71 to 22.87, respectively.

Figure 1. Mean score of quality of life among mastectomy patients receiving radiotherapy

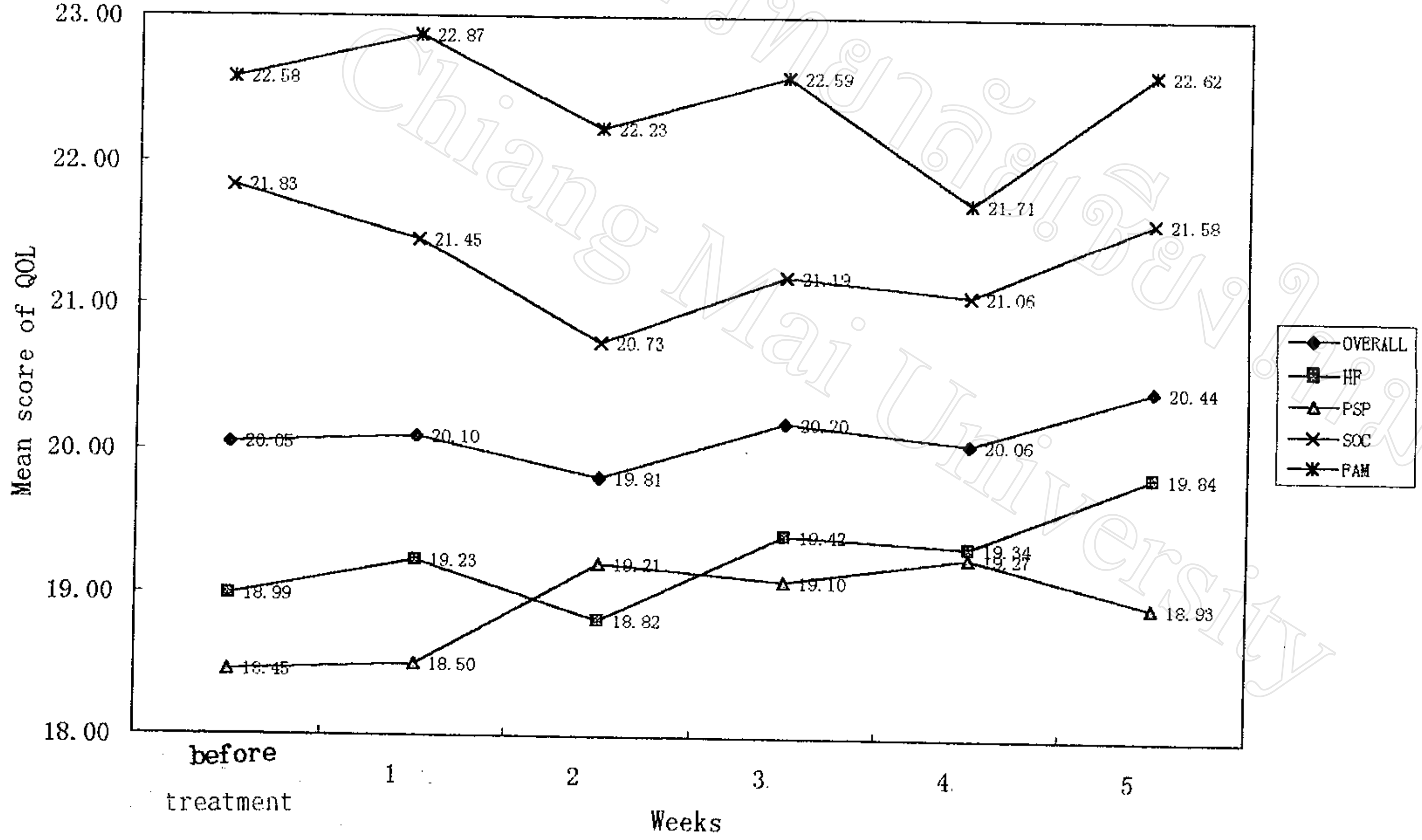

Figure 1 revealed the changes of quality of life (overall, health and functioning, psychological/spiritual, socioeconomic, and family domain) of the subjects throughout the course of radiotherapy. The possible score for the overall and all domains ranged from 1 to 30. In addition, for the overall quality of life, the range of changes from one week to another was .05 to .39, while for health and functioning, psychological/spiritual, socioeconomic, and family domain were .05 to .60, .05 to .71, .13 to .72, and .29 to .91, respectively.

Discussion

The discussion was organized into two parts according to the objective of the study.

Demographic data

Twenty mastectomy patients participated in this study. The average age of the subjects was 48.70 (SD=9.71) years old. The majority group was the ones of 40-49 (40%) (Table 1), which was similar to the study of Chinese mastectomy receiving radiotherapy patients conducted by Zhang (1997). In China, this age group is considered to be the busiest period in women's life since they usually have multiple roles, high responsibility and heavy work load from taking care of the older and the younger generations at the same time. Most of the subjects (85%) completed the nine years school education. This was congruent with the general requirement of educational level in China. Most of them were married (90%), and have good family relationship before the treatment. This is fit with the traditionally and culturally defined family type and family relationship in China. There were 65% of the subjects received total reimbursement from medical insurance. Total self-paid patients were 15% while their family income less than 500 yuan per month, that they may face economic problem during treatment.

Findings of the study

The overall quality of life and each domain possible score range from 0 to 30. In this study, the mean score for overall quality of life from before treatment to the end of treatment were ranged from 19.81 (SD=3.69) to 20.44 (SD=3.84). Also, for health and functioning psychological/spiritual, socioeconomic, and family domain were ranged from 18.82 (SD=4.13) to 19.84 (SD=4.18), 18.54 (SD=4.63) to 19.27 (SD=4.61), 20.73 (SD=4.97) to 21.83 (SD=5.07), and 21.71 (SD=5.26) to 22.87 (SD=4.99), respectively. It seemed to be quiet stable so that the discussion for overall quality of life and each domain would focus on three different points of time. The first discussion was done before receiving radiotherapy, as the quality of life among mastectomy patients only was affected by diagnosed with breast cancer and MRM. Then, the second focus was at the end of the second week since most of the side effects occur after two weeks of radiotherapy (Bender, Yasko, & Strohl, 1996). After that, the third point of time was selected at the end of radiotherapy, because the severity of side effects increased as the number of treatment increased (Weintraub & Hagopian, 1990), the subjects might have an accumulated effects mostly by radiotherapy at the end of the fifth week. Therefore, the three points of time were selected for discussion.

Overall quality of life

The mean score of total overall quality of life was 20.05 (SD=3.84) before radiotherapy. It was high compared with the possible range of score (0-30). The reason might be most of the subjects lived with their husband, and of those, half of them lived with their children (Table 1). Study of cancer survivors (N=687) conducted by Ferrell, et al. (1995) showed the presence of a spouse, or children living at home had an positive influence on the patients' quality of life. The result of this study was consistent with the study conducted by Ferrans (1994) showed that breast cancer patients were satisfied with their quality of life after they finished their treatment as they were satisfied with health care and they could survive.

The mean score at the second and the fifth week of radiotherapy were 19.81 (SD=3.69) and 20.44 (SD=3.84), respectively. It was a very little change compared to the mean score before radiotherapy. It looked like radiotherapy affected quality of life among the patients very little. It was not congruence with the study conducted by Hinds (1990) in cancer patients (N=87), showed that current radiotherapy had significance impact on patients' quality of life. The first likely reason might be most of the subjects were married (90%) (Table 1). Study had showed that those who married could function well during the radiation therapy compared to those who were not married (Graydon, 1994). The second reason might be the developed technique and medicine applied related to radiotherapy made side effects become less could be tolerated by the subjects. Therefore, overall quality of life trended to change a little among mastectomy patients receiving radiotherapy.

Health and functioning domain

The mean score was 18.99 (SD=3.67) before receiving radiotherapy. At this point of time, the subjects suffered from diagnosed with breast cancer, a serious, stressful, and life-threatening disease (Polaski & Tatro, 1996) and MRM. At the same time, some of the subjects (30%) (Table 3) experienced other illness, that might make them not satisfied with their own health and experience stress (Table 6 in Appendix B & C). More than half of the subjects (60%) reported that they experienced post-mastectomy pain (Table 6 in Appendix B & C), which was consistent with the report of Ferrans' (1994). Such qualitative study revealed that mastectomy patients experienced chronic pain after surgery. Though there were several negative consequences caused by being diagnosed of breast cancer and MRM, there was little effect on their daily activities as daily living as they reported of having enough energy for everyday life activities (Table 6 in Appendix B & C). On the other hand, the subjects were satisfied with health care services (Table 6 in Appendix B & C). It was congruence with Ferrans' (1994) study. The result of her study indicated that many patients were satisfied with nursing and medical care. In all settings, nurses provided time for the patients to ask and discuss about their physical problem. Since they had enough health service. Therefore, the health and functioning domain did not have a major impact.

The mean score was 18.82 (SD=4.13) at the end of the second week. At this time, most of side effects occur, which was similar to what was stated by Bender, Yasko, & Strohl (1996). These side effects added more negative impact on health and functioning domain on top of those from MRM. Two most common symptoms reported by the subjects in this study were fatigue and skin reaction which was consistent with the report of Teeple (1987) (cited in Knobf, 1990). The subjects described not having enough time and energy to do anything besides going to receive radiotherapy five days a week at the hospital. With the amount of radiotherapy accumulated, their skin color turned dark brown compared to the rest of the body. However, according to the radiated site, all changes could be covered under clothes and hinded from others. In addition, all of the subjects reported that they felt dryness and tenderness on the radiated site. Though the subjects could experience the changes generated by side effects at this point of time, such changes seemed to have minor effect on their physical and function. Therefore, the mean score just trend to drop a little from 18.99 (SD=3.67) to 18.82 (SD=4.13).

The mean score was 19.84 (SD=4.18) at the end of radiotherapy. The anticipated result of this domain at this time should decrease as the side effects increased with the number of the treatment increased (Weintraub & Hagopian, 1990). However, the mean score seemed not changed a lot. The possible explanation was that though they experienced side effects, all alternations were perceived as tolerable. Another reason might be they could gradually adjust to those changes as the time pass by. As Inglehart and Robier (1986) suggested that when people first experienced a change in objective circumstances, there were concommitant changes in subjective well-being. However, having enough time, people may have more opportunity to adjust their aspiration levels to fit new circumstances, which restores subjective well being (cited in Ferrans, 1993), so that the mean score seemed to raise a little at the end of the treatment from 18.82 (SD=4.13) to 20.44 (SD=3.84).

Athough there were several negative consequences cause by breast cancer and its treatment, their health and functioning domain had a slight fluctuation over time. The first reason might be that perceived of side effects neither serious nor untolerable. The second reason might be health care providers helped them with their problem throughout the course of treatment. Thus, the subjects in this study might adjust well during the period of time.

Psychological/spiritual domain

The mean score was 18.45 (SD=4.63) before receiving radiotherapy. This was considered to be low compare to other 3 domains. During data collection, the subjects kept on asking about breast cancer very often. Almost all of them reported they have a concern on cancer recurrence and their sleep disturbance during the night because of worried cancer recurrence. Fear of cancer recurrence among this subjects congruence with Ferran's (1994) qualitative study indicated that the survivors of cancer could never feel safe from the threat of recurrence, whether or not there was known cancer recurrence, uncertainty was a part of life for the survivor of cancer. The feeling of uncertainty that might had an impact on psychological/spiritual domain.

The mean score was 19.21 (SD=4.02) at the end of the second week and the mean score was 18.93 (SD= 4.73) at the end of the treatment. Study had reported that breast cancer patients with adjuvant radiotherapy following surgical treatment experienced anxiety and depression (Maraste, Brandt, Olsson, & Kyde-Brandt, 1992), which additional to the negative consequences of diagnosed of breast cancer and MRM, which might affect psychological/spiritual domain. But the mean score increased a little at these two points compared with the mean score before receiving radiotherapy. It was not consistent with the report of Christman (1990) showed that uncertainty and symptom severity significantly increased the explained variance in psychological adjustment. Greater uncertainty was associated with more psychosocial adjustment problems; symptom severity increased explanation of adjustment difficulty at the completion of radiotherapy. The possible reason might be emotion is dynamic, which changed over time, and not depended solely only on the impact of the treatment. Many factors can influence psychological/spiritual domain, such as support from others, environment, weather, etc.. On the other hand, psychological/emotional care they received might help them with their psychological problem through out the treatment, so that this domain might be changed in different pattern compared with other domains within quality of life defined in this study.

Socioeconomic domain

The mean score was 21.83 (SD=5.07) before receiving radiotherapy. In this study, most of the subjects (65%) receiving total reimbursement (Table 2), and they reported they did not worried about the treatment payment. But for the rest of subjects (35%) paid more than half of the treatment by themselves, which was about 8,000 to 12,000 yuan for MRM and 7,000 to 8,000 yuan for radiotherapy. This was a big deal for most of Chinese people, especially for those who were unemployed (20%) or farmers (10%) since they had low income. During the treatment, all of the subjects stopped working at the workplace. Deprived from work could decrease their social contacts with others in society after mastectomy (Lambert & Lambert, 1985). However, most of the subjects reported they were satisfied with their friends, neighborhood and emotional support (Table 6 in Appendix B & C). They expressed that their family members, relatives, neighbors, and bosses went to see them at the hospital or at home to give them emotional and financial support. Then, they still could contact and communicated with other people, and get support from others without any difficult, that made them satisfied with socioeconomic domain.

The mean score was 20.73 (SD=4.97) at the end of the second week, the mean score of this domain decreased a little compared with the mean score of 21.83 before receiving radiotherapy. As the side effects occurred at this point of time, traveling to hospital five days a week decreased their social contacts with other people (Northouse & Swain, 1987; Kawga-Paltoglou, et al., 1992; Hughes, 1993). On the other hand, most of the subjects (90%) stopped their work, with the on-going of the treatment, their family income decreased, while their daily payment might increased; therefore, their satisfaction with socioeconomic might had a slight change.

The mean score was 21.58 (SD=4.73) at the end of radiotherapy, which seemed to increase a little compared with the mean score (20.73) at the end of the second week, but still lower than the mean score before receiving radiotherapy a little (21.83). As family members or relatives brought them to the radiation setting every day, those people provided valuable support during radiotherapy. In addition, people who came to receiving radiotherapy had a chance to see one another during waiting for the treatment. It was an opportunity for them to share experiences and support with others. Another likely explanation was that they might feel relieve from socioeconomic burden at least the first course of treatment was stopped. Thus, their socioeconomic trended to be stable through out the times.

Family domain

The mean score was 22.58 (SD=6.12) before receiving radiotherapy. In this domain, the subjects were satisfied with their family happiness, their spouses, their children, and their family health (Table 6 in Appendix B & C), especially family happiness and their spouse. This was not congruent with the report from western countries showed that some patients could not be understood by their husbands anymore (Ferrans, 1994), and lack of communication between wife and husband might induce conflict (Cox, 1984). The different result might be caused by different context of the country. During data collection, the researcher saw that at least 3 husbands (15%) of the subjects went to radiation setting with their wives every day. And one subject's husband (5%) brought his wife to the setting after finished his night shift work. These showed support from family received by the subjects, so that their satisfaction of family domain seemed not to change tremendously.

The mean score was 22.23 (SD=4.55) at the end of the second week, which trend to decrease a little. As the subjects experienced fatigue and had to travel to the hospitals five days a week, might affected they enjoy with family happiness (Table 6 in Appendix B & C). Also feeling of guilty not being able to perform their role affected satisfaction with family domain.

The mean score was 22.62 (SD=4.23) at the end of radiotherapy. At this point of time, fatigue and skin reaction increased as the number increased (Weintraub & Hagopian, 1990). Tired of travelling to the hospitals five days a week, influenced their ability to take care of their children. Study had showed that children whose mother undergoing breast cancer treatment had difficult living as normal as possible (Issel, Ersek & Lewis, 1990), that might affected their satisfaction with their children. However, the subjects in this study still satisfied with their children (Table 6 in Appendix B & C). The subjects stated that their parents and husbands helped them take care of their children and do housework, and their illness were understood by significant others during the course of treatment, that might slightly increase their feeling of satisfaction with family domain. Therefore, their family domain did not change a lot during radiotherapy.

Summary of the results

The mean scores of total quality of life were ranged from 19.81 (SD=3.69) to 20.44 (SD=3.84), and the mean score for health and functioning, psychological/spiritual, socioeconomic, and family subscale were ranged from 18.82 (SD=4.13) to 19.84 (SD=4.18), 18.45 (SD=4.63) to 19.27 (SD=4.16), 20.73 (SD=4.97) to 21.83 (SD=5.07), and 21.71 (SD=5.26) to 22.87 (SD=4.99), respectively. The result of this study showed that the quality of life among mastectomy patients receiving radiotherapy seemed to be a slight change over time. Within four domains, family domain received the highest satisfaction, while psychological/spiritual domain seemed to get the lowest satisfaction this group of sample.