

CHAPTER 4

FINDINGS AND DISCUSSION

A descriptive study was used to describe events and stress appraisal among HCC patients undergone hepatectomy. Sixty patients were recruited by purposive sampling.

The result is presented in this chapter. The first part presents the demographic data. The second part presents data of events and stress appraisal among HCC patients undergone hepatectomy.

Findings

Part one: Description of demographic data

Sixty HCC patients undergone hepatectomy participated in this study. The demographic data of the patients are presented in table 1 to table 5.

Table 1

Frequency and percentage of the subjects clarified by gender, age group, marital status, and education (n=60)

Variable	f	%
Gender		
Male	54	90.0
Female	6	10.0
Age (yrs) (range 27-72, \bar{X}=49.38, SD=10.42)		
Young adult (21-40)	10	16.7
Middle adult (41-60)	38	63.3
Older adult (more than 60)	12	20
Marital status		
Single	2	3.3
Married	58	96.7
Education		
Illiteracy	2	3.3
Primary school	5	8.4
Junior high school	20	33.3
Senior high school	11	18.3
Secondary technical school	3	5.0
Associate degree	12	20.0
Bachelor degree	5	8.4
Graduate	2	3.3

Table 1 shows that most of the subjects were males (54, 90%). The age of the subjects ranged from 27 to 72 years with mean of 49.38 (SD=10.42). The greatest proportion of the age group was middle adult whose age was 40 to 59 years (38, 63.3%). Most of them were married (58, 96.7%). Educational background ranged from illiteracy to graduate level. Most of them (33.3%) finished Junior high school.

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Table 2

Frequency and percentage of family members living with the subjects, number of persons under responsibility of the subjects, and occupation of the subjects (n=60)

Variable	f	%
Family members living with the subject		
Spouse & children	38	63.3
Parents, spouse & children	16	26.7
Spouse	4	6.6
Parents	1	1.7
Nobody	1	1.7
Number of persons under responsibility of the subjects		
Nil	21	35.0
One	22	36.7
Two	8	13.3
Three	6	10.0
Four	3	5.0
Occupation of the subjects		
Government service	28	46.7
Worker	9	15.0
Farmer	8	13.3
Private organization	8	13.3
Retired	6	10.0
Out of job	1	1.7

Table 2 shows that most of the subjects lived with their spouse and children (38, 63.3%) whereas only one person (1.7%) lived alone. Most of the subjects (39, 65%) had at least one person under his or her responsibility. In addition, almost half of them (28, 46.7%) worked as government service. Only one (1.7%) lost his job.

Table 3

Frequency and percentage of family income, way of payment, length of time after having been diagnosed, stage of disease, and duration of hospitalization (n=60)

Variable	f	%
Family income (yuan/m) (X=955.1, SD=742.8)		
0-999	35	58.3
1,000-1,999	17	28.3
2,000-2,999	5	8.4
3,000-3,999	3	5.0
Way of payment		
Fully reimbursed	40	66.7
Partially reimbursed	7	11.7
Self paid	13	21.6
Length of time after having been diagnosed		
One month	42	70.0
Two months	9	15.0
Three months	3	5.0
More than three months	6	10.0
Stage of disease		
Stage I	5	8.3
Stage II	24	40.0
Stage III	19	31.7
Stage IV	12	20.0

Table 3 illustrates that most of the subjects (35, 58.3%) had family income less than 1000 yuan per month. Most of the subjects (40, 66.7%) could get fully reimbursement from the government, work agencies or insurance company. Thirteen subjects (21.6%) had to pay all the medical expenses by themselves. Majority of the subjects (42, 70.0%) were diagnosed for one month. Most of them were in either stage II (40%) or III (31.7%). Only 5 (8.3%) were in stage I.

Table 4

Frequency and percentage of duration of hospitalization, location of incision, duration of operation, and number of drainage tubes (n=60)

Variable	f	%
Duration of hospitalization		
1 week	29	48.3
2 weeks	28	46.7
3 weeks	3	5.0
Location of incision		
Right subcostal incision	54	90.0
Bilateral subcostal incision	6	10.0
Duration of operation		
2-3.99 hours	28	46.7
4-5.99 hours	25	41.6
6-7.99 hours	7	11.7
Number of drainage tubes and/or infusion lines		
1	12	20.0
2	18	30.0
3	23	38.3
4	2	3.3
5	5	8.3

Table 4 shows that most of the subjects (57, 95%) had hospitalized within two weeks. Most subjects (54, 90.0%) had right subcostal incision, while six subjects (10.0%) had both subcostal incision. Nearly half of the subjects (28, 46.7%) received operation less than 4 hours. Only seven subjects (11.7%) undergone the operation for more than six hours. All of the patients had drainage tubes and/or infusion lines in 72 hours after operation. Most of them (53, 88.3%) had 1 to 3 drainage tubes and/or infusion lines.

Table 5

Frequency and percentage of the subjects' commitment to accomplish all tasks necessary for the first recovery period and belief that he/she can successfully control the situation during the first recovery phase in the hospital (n=60)

Variable	f	%
Commitment to accomplish all tasks necessary		
No	1	1.7
A little	2	3.3
Moderately	16	26.7
A lot	41	68.3
Belief of situational control		
No	2	3.3
A little	7	11.7
Moderately	11	18.3
A lot	40	66.7

Table 5 shows that the majority of the subjects (41, 67.2%) had a lot of commitment to accomplish all tasks necessary for the first recovery period in the hospital, sixteen subjects had moderate, two (3.3%) had a little and only one (1.7%) had no commitment to accomplish all the tasks. Most of the patients (40, 66.7%) had a lot of belief that he/she can successfully control the situation during the first recovery phase in the hospital. Eleven of them (18.3%) had moderate, seven of them (11.7%) had a little and only two of them (3.3%) had no belief to control the situation.

Part two: Description of events and stress appraisal among HCC patients undergone hepatectomy

The findings about events and stress appraisal are presented in this part.

Table 6

Range, mean, and standard deviation of stress appraisal toward illness-related, hospital-related, and overall events among HCC subjects undergone hepatectomy

Events	Range	Mean (SD)	Level
Illness-related events	1-2.84	1.87 (0.92)	Low
Hospital-related events	1-2.17	1.34 (0.53)	Low
Overall events	1-2.84	1.71 (0.87)	Low

Table 6 shows the overall stress appraisal among the subjects range from 1 to 2.84 with mean of 1.71 (SD=0.87). This stress appraisal was considered to be low. The stress appraisal toward illness-related events (range=1-2.84, \bar{X} =1.87, SD=0.92) was higher than that of hospital-related events (range=1-2.17, \bar{X} =1.34, SD=0.53). However, the appraisal towards both different kind of events were reported to be low.

Table 7

Events appraised by HCC subjects undergone hepatectomy

Events	Illnes-related		Hospital-related	
	f (n=26)	%	f (n=16)	%
Not stressful	1	3.8	1	6.3
Stressful for some subjects	25	96.2	15	93.7
Stressful for all subjects	0	0	0	0

Table 7 highlights that there were 25 illness-related events (96.2%) were appraised as stressful only for some subjects. There was one event (3.8%) appraised as not stressful. For the hospital-related events, 15 events (93.7%) were appraised as stressful for some subjects, only one event (6.3%) appraised as no stressful.

Table 8

Top four stressful illness-related events occurred most frequently among the HCC subjects undergone hepatectomy (n=60)

Statement	f (%)	Mean (SD)
Decrease activity of daily living	60 (100.0)	1.37 (0.61)
Change in food/water intake	60 (100.0)	1.58 (0.87)
Being in pain	58 (96.7)	1.76 (1.05)
Insertion of drainage tubes in your body	58 (96.7)	1.59 (0.90)

Table 8 illustrates the top four stressful illness-related events occurred most frequently among HCC subjects undergone hepatectomy were, "decrease activity of daily living" (60, 100%), "change in food/water intake" (60, 100%), "being in Pain" (58, 96.7%), and "insertion of drainage tubes in your body" (58, 96.7%), respectively.

Table 9

Top four stressful hospital-related events occurred most frequently among the HCC subjects undergone hepatectomy (n=60)

Statement	f (%)	Mean (SD)
Being away from home	60 (100)	1.55 (0.91)
Having several health care providers care for	60 (100)	1.47 (0.70)
Sharing a room with others	60 (100)	1.23 (0.62)
Wearing a hospital gown	60 (100)	1.02 (0.13)

Table 9 shows the top four stressful hospital-related events occurred most frequently among the HCC subjects undergone hepatectomy were: "being away from home" (60, 100%), "having several health care providers care for" (60, 100%), "sharing a room with others" (60, 100%), and "wearing a hospital gown" (60, 100%), respectively. All of these were occurred among all subjects of this group.

Table 10

Top four most stressful illness-related events appraised by the HCC subjects undergone hepatectomy (n=60)

Statement	Mean (SD)	Level	f (%)
Having hiccups	4.00 (0.00)	High	1 (1.7)
Changing responsibility toward family	2.65 (1.11)	Moderate	37 (61.7)
Having to depend on others	2.62 (1.07)	Moderate	45 (75.0)
Being too much concerned by Family	2.45 (1.20)	moderate	53 (88.3)

Table 10 shows the top four most stressful illness-related events appraised by HCC subjects undergone hepatectomy were, "having hiccups" ($\bar{X} = 4.00$, $SD = 0.00$), "changing responsibility toward family" ($\bar{X} = 2.65$, $SD = 1.11$), "having to depend on others" ($\bar{X} = 2.62$, $SD = 1.07$), and "being too much concerned by family" ($\bar{X} = 2.45$, $SD = 1.20$), respectively. Only "having hiccups" was considered to be high stress appraisal, whereas the rest of them were moderate stress appraisal.

Table 11

Top four most stressful hospital-related events appraised by the HCC subjects undergone hepatectomy (n=60)

Statement	Mean (SD)	Level	f (%)
Having light on constantly	1.85(0.90)	Low	13 (21.7)
Inability to fulfill social roles	1.84(1.03)	Low	38 (63.3)
Problem with nurses	1.57(0.53)	Low	7 (11.7)
Being away from home	1.55(0.91)	Low	60 (100)

Table 11 shows the top four most stressful hospital-related events appraised by HCC subjects undergone hepatectomy were, "having light on constantly" ($\bar{X} = 1.85$, $SD = 0.90$), "inability to fulfill social roles" ($\bar{X} = 1.84$, $SD = 1.03$), "problem with nurses" ($\bar{X} = 1.57$, $SD = 0.53$), and "being away from home" ($\bar{X} = 1.55$, $SD = 0.91$), respectively. All of these considered to be low stress appraisal.

Discussion

The discussion of this study was organized into three parts according to the study objectives.

Demographic data

Sixty HCC subjects undergone hepatectomy participated in this study. The majority of them were males (54, 90.00%). The ratio of HCC men to women was 9 to 1. The greatest proportion of the group was in middle adulthood (38, 63.3%). This subject was congruent with the finding of Tang (1995) and Wu (1992) which the ratio of women to men was 6 to 1 among HCC patients in China. In addition, the majority of those people were under 50 years of age. Most of them (53, 88.3%) finished junior high school or higher which met the minimum educational requirement of China. Nearly one third of the subjects got associate degree or higher education. This finding showed that these subjects got relatively high education compare to general Chinese population.

Most of the subjects (58, 96.7%) were married and lived with family member(s) (59, 98.3%). This was consistent with traditional Chinese families. More than half of the subjects (39, 65%) had at least one person under their responsibility since most of them married and were in middle adulthood. They either had parents and/or children stay with them. The occupation of the subjects indicated that the majority of them (53, 88.3%) worked either for government, factories, or private organization. The progression of disease and long time hospitalization might have an impact

on their career. In China, the mean of income per capita of urban resident was 362 yuan, while the mean of rural resident was 151 yuan (China Health Ministry Statistics, 1998). Generally, there was about three person in one family. Therefore, the average family income of Chinese population ranges between 453 to 1.86 yuan per month. In this study, thirty-five of them (58.3%) had family income less than 1000 yuan per month. Therefore, most of them had family income about or less than general Chinese people had. The cost of hospitalization and additional long-term treatment might be a big financial burden for them.

Most of them (42, 70.0%) had been diagnosed with HCC within one month. Nearly half of them (29, 48.3%) were in stage I (5, 8.3%) or stage II (24, 40.0%). The other half of them were in stage III (19, 31.7%) or stage IV (12, 20.0%). Most of them knew their diagnosis and stage of disease except three. At present, Chinese people do not have difficult time discussing about cancer since there were information regarding cancer provided by public media. Moreover, the unit of which these subjects hospitalized was the only one unit for surgical liver cancer patients in the hospital. Most of them might have known their own diagnoses after they admission. Among these, three of them did not know that they had cancer but were told that they had benign tumor of the liver. All of them had subcostal incision, among these 54 of them (90%) of them had right subcostal incision. This was consistent with the common incision used for hepatectomy (Flint & Polk, 1988).

Research Objective 1: To identify events that are appraised as stressful among HCC patients undergone hepatectomy.

The finding of this study showed that there were 25 illness-related events (96.2%) occurred and was stressful for some people. Only one of these events (3.8%) occurred but was not stressful. Whereas, 15 of the hospital-related events (93.7%) occurred and was stressful for some people, except one (6.3%) that was not stressful (Table 7). The stress appraisal toward overall events was low ($\bar{X}=1.71$, $SD=0.87$). Whereas, illness-related events ($\bar{X}=1.87$, $SD=0.97$) was appraised to be higher than that of the hospital-related events ($\bar{X}=1.34$, $SD=0.53$). However, both of such appraisals were considered to be low (Table 6).

One explanation to the finding was that most of these subjects (51, 85%) had moderate to a lot of belief that they could control over the situation during this period. Once, the subjects believed in their ability to control over the events had great impact on their stress appraisal. In Lazarus and Folkman's theory (1984), belief determine what is the fact, that is "how things are" in the environment, and they shape the understanding of its meaning. Object of control in dealing with health-related stressful events was generally complex, was frequently ambiguous. The subjects in this study believed on the situation control. Thus, they might take action to manage the demand upon such events. Their stress appraisal was low.

In addition, most of the subjects (57, 95%) had moderate to a lot of commitment to accomplish all tasks for the first recovery period. Commitments express what is important to the person, what has meaning for him or her. They determine what is at stake in a specific stressful encounter. Commitment underlie the choices people make or are prepare to make to maintain valued ideals and/or to achieve desired goals. Commitment affects appraisal by guiding people into or away from situations that are threaten or harm. The deeper a person's commitment, the depth of commitment can also push a person toward ameliorative action and help sustain hope.

Furthermore, Chinese people, especially men, tended not to verbalize their negative feelings because of their dignity of being a "big" man. They do not like to express any of the difficulties. Also, they avoided thinking about them. The low stress appraisal might also attributed to the "good patient syndrome" as what had been found by Cochran and Ganong (1989), in which the patients avoided labeling items as stressful for afraid of being perceived as a complainer.

Illness-related events ($\bar{X}=1.87$, $SD=0.97$) were appraised as more higher stressful than that of the hospital-related events ($\bar{X}=1.34$, $SD=0.53$) in this study. The result of this study was supported by many studies that had been done among either heart disease patients or general medical-surgical hospitalized patients (Connelly, 1992; Ross

& Mackay, 1986; Volicer, 1973; Volicer & Bohannon, 1975). This was congruently with the study of Connelly (1992). In his study, he found that nine of the 10 least stressful events and conditions were hospital-related compared to the overall events.

Most of the stress appraisal regarding hospital events were considered to be relatively low. The hospital events in this study, concerned day-to-day inconveniences of the hospital situations and routine schedules. Zhongshan hospital, one of the teaching hospitals of SMU, is a tertiary hospital. The hospital had a great improvement in term of hospital environment in order to provide a more comfortable environment for patients. Doctors and nurses were encourage to have good attitude toward the patients. There was the improved application of holistic care. The quality of nursing care had improved greatly in recent years (Gu, 1992). Therefore, hospital-related events was found to be appraised as low stressful by the subjects of this study. In addition, the majority of the subjects concerned more about the treatment and their prognosis. They might not concern much about the hospital environment. These subjects reported lower stress appraisal on hospital-related events than that of illness-related events. Another explanation might be on their moderate to high commitment toward accomplishing all tasks required during this period of time. Such commitment might influence their appraisal toward the events and created psychological vulnerability and appraised

the illness-related events as more harmful or threatening than that of the hospital-related events.

Illness-related events

The top four of stressful illness-related events occurred most frequently among the subjects were, "decrease activity of daily living" (60, 100%), "change in food/water intake" (60, 100%), "being in Pain" (58, 96.7%), and "insertion of drainage tubes in your body" (58, 96.7%) (table 8).

Among the 26 illness-related events, "decrease activity of daily living" occurred most frequently in this study (60, 100%). However, such event ranked 23th in term of the intensity of stress appraisal ($\bar{X}=1.37$, $SD=0.61$). This finding was incongruent with that of Gurklis and Menke (1988). In their study, they found "limitation of physical activities" was the major stressful event among patients undergoing hemodialysis. Mobility is one of the most important aspects of human physiological functioning because it is essential for maintenance of independence (Miller, 1995 cited in Carpenito, 1997). During the first 48 to 72 hours after operation, the patients usually had decreased mobility because of pain and tube or line insertion (Beckermann & Galloway, 1989). In this study, being in pain and tube or line insertion was reported by the subjects with percentage of 96.7%, and 100%, respectively. These subjects appraised this event as stressful event. However, this

event was appraised as stress for only some subjects with low mean score of stress appraisal of 1.37 (SD=0.61). In this study, nurses had given patients routine preoperative teaching before operation, and told them that this condition was a normal process of recovery, and would not last long. The patients might be shared the experience by the other postoperative hepatectomy patients after admitted to the hospital. Also, during this postoperative phase, there were the health care providers and family members there to help them pass through the difficult period. So, these subjects did not have psychological burden. Therefore, the subjects in this study appraised event as low stressful.

Another first rank event among stressful illness-related events occurred most frequently was "change in food/water intake" (60, 100%). However, it was appraised as low stressful ($\bar{X}=1.58$, SD=0.87). This finding was different from that of Cornock (1998). In his study, changing diet was found to be appraised as high stressful situation. Inability to eat had profound physical and psychological impact on the individual (Anderson & Ward, 1997). Generally, within 48 to 72 hours after hepatectomy, some of the patients still had ineffective bowel movement; thus, nasogastric intubation was still the evidence and the patients were not allowed to eat or drink anything (Beckermann & Galloway, 1989). All of these patients felt thirsty. However, about half of the subjects in this study had been extubated and were first allowed to have some water or fluid food. Also, by attending

the routine preoperative teaching, the subjects understood that this condition was inevitable. In addition, they were told that the condition might not last long. Also the fluid and nutrition would be given to them through intravenous infusion. Furthermore, most of these subjects were males and in middle adulthood, they used to be told that they should be brave to overcome any of the difficulties. They might consider this condition as minor physical discomfort. Therefore, "change in food/water intake" even occurred in all subjects were appraised low stress.

"Being in pain" was second top stressful illness-related events occurred most frequently (58, 96.7%) among the HCC patient undergone hepatectomy. However, it was appraised as a low stressful event for the subjects ($\bar{X}=1.76$, $SD=1.05$). All of the subjects in this study had subcostal incision. Such incision tends to be the most painful among the upper abdominal incision (Heffline, 1990 cited in Jurf & Nischl, 1993). Being in pain were appraised by patients from intensive care unit as high stressful events (Cochran & Ganong, 1989; Cornock, 1998). For ICU patients, they were in critical condition, the severity of pain might be more intense; thus, they appraised the event as high stress. However, in this study, the subjects were on the third day after operation, the pain among the subjects became decrease and under medical control. Thus, stress appraisal toward pain was not high.

"Insertion of drainage tubes in your body" was another second top stressful illness-related events occurred most frequently among the subjects (58, 96.7%). However, it was appraised as low stress ($\bar{X}=1.59$, $SD=0.90$). Having tubes in the body could cause uncomfortable and inconvenience. Compared to that of Cornock (1998), the almost similar events as "having tubes in your nose or mouth" and "being restricted by tubes/lines" were found to be among the top five most stressful events occurred most frequent among ICU patients (Cornock, 1998). The finding of this study was different from his study, in term of the intensity of stress appraisal. The ICU patients were seriously ill, their condition was uncertainty and they did not know when the condition would last. Moreover, having several tubes and lines might make the patient realize that his/her condition was not good. The stress appraisal of such condition became intense. Hepatectomy was a major surgery. After operation, oxygen was administered through a nasal cannula to prevent hypoxia. Abdominal drainage, urinary catheter, and nasogastric tube were still inserted in some patients. Therefore, most of the subjects still had one or more drainage tubes attached to their bodies. However, such event was appraised as low stress among the subjects. The explanation for the evidence might be based on the effect of the routine preoperative teaching. All subjects had been informed about the benefit and duration of intubation during

the recovery process. Therefore, it was appraised as low stress.

Hospital-related events

The top four stressful hospital-related events occurred most frequently among the subjects were: "being away from home" (60, 100%), "having several health care providers care for" (60, 100%), "sharing a room with others" (60, 100%), and "wearing a hospital gown" (60, 100%) (table 9). Such events ranked first in term of the most frequent event occurred among the HCC subjects undergone hepatectomy.

"Being away from home" was the stressful evidence among all subjects. Undergoing major surgery, the subjects must be hospitalized. Almost alike what was found among patients undergone open-heart surgery and general medical-surgical patients (Connelly, 1992; Ross & Mackay, 1986; Volicer & Bohannon, 1975).

"Having several health care providers care for" was found in all subjects. This finding was consistent with the finding of the study among cardiac patients (Connelly, 1992) and general medical-surgical patients (Cochran, 1989). In their studies, the similar events such as "having several nurses care for you", "number of people involved in your care" and "being cared by unfamiliar doctors" were appraised as stressful events by all patients. All of the subjects in this study had been hospitalized less than three weeks. They were not familiar with the health care providers, being cared by unfamiliar persons would generate stress appraisal.

In surgical ward of Zhongshan Hospital, the major nursing delivery system was team approach, there were many nurses take turn of providing care for individual subjects. Moreover, in the postoperative period, these subjects had decrease ability to perform their own activity of daily living. They might feel they had to depend on others, and eventually became a burden for the health care providers. Therefore, some of the patients would appraise this event as stressful. However, the stress appraisal of "having several health care providers care for" was low with mean of 1.47 (SD=0.70). One explanation was that one family member was allowed to stay and provide care for the subjects. Along with care from health care providers, the subjects were cared by their family member. This event did not raise high stress. Also, the low appraisal among the subjects might be from the effects of holistic approach to ensure the quality of care.

"Sharing a room with others" was appraised as stress by all subjects. Having others in the room and lack of privacy were also found to be the stressful experience for patients in some studies (Connelly, 1992; Cornock, 1998; Volicer & Bohannan, 1975). The majority of the subjects had family income about or less than the average of family income of Chinese population. Sharing a room with others was an inevitable event for them. There were four patients in a room in the surgical ward of Zhongshan Hospital. Having roommates who were seriously ill and watching treatment being given to the patient made the subjects become stress.

Having roommates who had too many visitors might affect their rest or sleeping. Some of these subjects might worry upon their conditions. Such evidence had an impact on their stress appraisal. However, these events were rarely happened in the unit where the subjects hospitalized. Most of the subjects had good relationships with roommates. They had an opportunity to share their feeling and experiences. Therefore, the stress appraisal was low among them.

"Wearing a hospital gown" was also found among all subjects. In Zhongshan Hospital, the patient should wear the hospital gown according to the hospital policy. This event was inevitable for the subjects. "Having to wear a hospital gown" was also found to be a low stressful event for general medical-surgical patients (Volicer & Bohannon, 1975). Besides from unfamiliar with style, the gowns were considered to be clean and comfortable, thus, low stress appraisal generated. Only few patients might have the feeling of boring and/or loss of control which may lead to stress appraisal.

Research Objective 2: To describe the stress appraisal among HCC Patients undergone hepatectomy.

Illness-related events

The top four most stressful illness-related events appraised by the subjects were, "having hiccups" ($\bar{X} = 4.00$, $SD = 0.00$), "changing responsibility toward family" ($\bar{X} = 2.65$, $SD = 1.11$), "having to depend on others" ($\bar{X} = 2.62$,

SD = 1.07), and "being too much concerned by family" (\bar{X} = 2.45, SD = 1.20) (Table 10).

"Having hiccups" was the most stressful event reported by one subject. This subject added this event on the questionnaire that the researcher provided. Having hiccups was also reported to be an additional stressful event by hemodialysis patient (Baldree, Murphy, & power, 1982). It turned out that this event was the most stressful among all of the illness-related events for him. This subject had severe and last long hiccups. During having hiccups, he experienced severe wound pain, and could not get a sleep postoperatively. He tremendously worried about it. In addition, the noise of hiccups interrupted the sleep of his roommates. They blamed him on waking them up so many times during the night. They stated that the sound of hiccups was very loud. Thus, this subject felt embarrass and guilty about this. Therefore, for this subject, hiccups became the event appraised as the most stressful event.

"Changing responsibility toward family" was the second highest stressful illness-related event (\bar{X} = 2.65, SD = 1.11). "Being too much concerned by family" was reported as the fourth among the most stressful illness-related event (\bar{X} = 2.45, SD = 1.20). The majority of the subjects were males (90%), and in middle adulthood (63.3%). More than half of the subjects (65%) had at least one person under their responsibility. In Chinese culture, men who are the "pillars of their family" should be strong and have the

main responsibility toward their family. They might have the strong belief that they should support the family and might concern more over their family than over themselves. HCC was an aggressive malignancy, the relative 5-year survival rate was 10% for resectable HCC patients (Otto, 1994). Most of the family members of the patients were aware of the progression of the disease either from health professionals or from public media. Such event threatened to the whole existence of their beloved lives. Some of these subjects need to have either chemotherapy or other further treatment. The family might be worried and expressed their concern toward their beloved well-being. Having to be concern by family was stressful for patients.

"Having to depend on others" ranked third among the highest stressful illness-related event for the subjects (\bar{X} = 2.62, SD=1.07. Similar to the study of Ross and Mackay (1986), in their study, they found that "loss of independence" was the third highest stressful event appraised by postoperative open-heart surgery patients. In this study, HCC subjects felt stressful because they needed to be cared by either the family members or health professionals especially during the first postoperative period. Some subjects stated that they did not fear of death if they lived for themselves. They worried mostly upon their further treatment may bring big burden upon their family in term of the expensive payment and long term caring. The same as open-heart surgery, hepatectomy was a major surgery,

the patients had to depend on others' physical and financial support. Therefore, the stress appraisal toward the event "having to depend on others" was appraised as stressful among these two groups.

Hospital-related events

The most stressful hospital-related events were, "having light on constantly" ($\bar{X} = 1.85$, $SD = 0.90$), "inability to fulfill social roles" ($\bar{X} = 1.84$, $SD = 1.03$), "problem with nurses" ($\bar{X} = 1.57$, $SD = 0.53$), and "being away from home" ($\bar{X} = 1.55$, $SD = 0.91$) (Table 11).

The findings of stress appraisal by these subjects toward hospital-related events shows that "having light on constantly" ($\bar{X} = 1.85$, $SD = 0.90$) had the top mean score. "Having light on constantly" were found to be the cause of stress among the ICU patients (Cochran & Ganong, 1989; Cornock, 1998). This finding suggested that constant light on was one the most important hospital-related event, which had an major influence on the patients. It interrupted their sleep. Without sleep, the patients might worry about their slow recovery. However, only thirteen subjects (21.7%) found this event stressful, This kind of condition rarely occurred in the general ward. Usually, the light would be turned off at 9 pm, the light was turned on only when some patient needed some treatment or caring.

The second top stressful hospital-related event appraised by the HCC hepatectomy patients was "Inability to

fulfill social roles" ($\bar{X} = 1.84$, $SD = 1.03$). Most of the subjects were in middle adulthood (63.3%), the majority of them (88.3%) had a job. They might have the important roles and responsibilities in the society. After they admitted to the hospital, there was the change in their social life. The work they used to do would be stopped or took over by others. Some subjects worried that they could not keep their position after returning to work. The similar events such as "absence from business" and "decrease social life" were also found to be stressful events among cardiac patients (Connelly, 1992) and hemodialysis patients (Baldree, Murphy, & Powers, 1982).

"Problem with nurses" ($\bar{X} = 1.57$, $SD = 0.53$) was the third of the most stressful hospital-related event. At Zhongshan Hospital, the number of nurses was not enough. There were only thirteen nurses in general unit caring for about forty-six patients in this ward. Nurses had heavy workload. Nurses were primary health care providers for these patients. Although nurses tried to provide holistic care for them, if one or two nurses did not have enough time for individual subjects, they might have the problem with the subjects. Thus, "problem with nurses" was appraised as low stress.

The fourth most stressful hospital related-event was "being away from home" ($\bar{X} = 1.55$, $SD = 0.91$). Most of the subjects (58, 96.7%) were married and used to live with family members (59, 98.3%). Being separated from the

familiar people and places and facing with unfamiliar events, the subjects might develop some degree of stress. The subjects knew the necessity and benefit of the hospital treatments. Most of them believed that they would rapidly recover and spend short time in the hospital. Furthermore, the family members of the subjects were allowed to stay and take care of them every day during the 4-5 postoperative period. Therefore, the subjects might not develop high stress toward "being away from home".