

## **CHAPTER 4**

### **RESULTS AND DISCUSSION**

This study was designed to examine the differences of caring practices in reducing patients' pre-operative anxiety as perceived by surgical nurses and patients. In this chapter, the findings are presented under the following headings:

1. Subjects' characteristics
2. Levels of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients
3. The differences between caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients

#### **Results**

##### **1. Subjects' characteristics**

Subjects of this study were seventy surgical nurses and seventy pre-operative patients (Table 4-1). Seventy surgical nurses who had worked at least a half-year were participated in this study from the three hospitals. Forty-three surgical nurses were randomly withdrawn with stratified random sampling from general, orthopedic, and obstetric gynecological wards in Prof. Dr. Margono Soekarjo Hospital, 12 eligible surgical nurses from Banyumas District Hospital, and 15 eligible subjects from Purbalingga District Hospital. Seventy pre-operative patients selected from three hospitals were participated. Forty-three pre-operative patients were systematically withdrawn from general, orthopedic, and obstetric gynecological wards from Prof. Dr.

Margono Soekarjo Hospital, 12 eligible pre-operative patients from Banyumas District Hospital, and 15 eligible pre-operative patients from Purbalingga District Hospital.

**Table 4-1** Number of surgical nurses (N=70) and patients (N=70) in three hospitals

Hospitals	Nurses	Patients
Margono Soekarjo Hospital		
Orthopedic ward	11	18
General ward	13	12
Gynecological ward	19	13
Banyumas District Hospital	12	12
Purbalingga District Hospital	15	15

### 1.1 Surgical nurses

Table 4-2 shows the demographic data of surgical nurses. The age of the surgical nurses ranged from 20 years to 47 years (mean=30.31 years, SD=6.32). Most of them (57.2%) were young adult and adults, ranging from 20 year to 30 years, and 31 years to 40 years (34.4%). More than half were female and 41.4% were male nurses. The majority of surgical nurses were married (65.7%). Religion of all subjects was Islam. Educational background of most surgical nurses was Diploma III of Nursing (98.6%). Duration of working experience of the surgical nurses ranged from 0.5 years to 22 years and most of them had worked for less than 10 years. However, they had not attended courses of pre-operative anxiety management (92.9%) and did not have experience of previous surgery (75.7%).

**Table 4-2** Frequency and percentage of surgical nurses' demographic data (N= 70)

Demographic data	Frequency	Percentage
1. Age ( $\bar{X}$ = 30.31, SD= 6.32, Range= 20-47)		
20 - 30	40	57.2
31 - 40	24	34.4
41 - 50	6	8.5
2. Gender		
Female	41	58.6
Male	29	41.4
3. Marital		
Married	46	65.7
Single	23	32.9
Widow	1	1.4
4. Religion		
Islam	70	100.0
5. Education		
Diploma III	69	98.6
Bachelor	1	1.4
6. Working ( $\bar{X}$ = 4.61 years, SD= 5.0, Range= 0.5-22)		
0 - 5	51	72.8
6 - 10	11	15.7
11 - 15	3	4.2
16 - 20	4	5.6
21 - 22	1	1.4
7. Attending courses		
No	65	92.9
Yes	5	7.1

## 1.2 Pre-operative patients

Table 4-3 describes general characteristics of pre-operative patients. Seventy pre-operative patients who stayed at least one day before surgery at the three hospitals were recruited in this study. The age of the patients ranged from 18 years to 73 years (mean=39.7 years, SD=17.3). The majority of patients ranged from 18 to 30 years old (38.6%), and 31 to 40 years old (19.9%). The number of male patients was twice that of females (32.9%). Most of the patients were married (65.7%). Religion of all patients was Islam and they had graduated from elementary school (35.7%), secondary school (22.9%), and high school (31.4%). Entrepreneur (24.3%) and farmer (21.4%) were main occupations found in this study. The majority of patients did not have surgical experience (71.4%). Pre-operative anxiety score ranged from 1 to 7.8 (mean=3.8, SD=1.7). Patients' pre-operative anxiety was categorized into three categories: low level (17.1%), moderate level (64.3%), and high level (18.6%).

Regarding types of diagnosis and surgery, three diagnostic groups were identified, namely fracture, cancer, and infection. The highest percentage of subjects was diagnosed with fracture (22.9%). Diagnoses mostly found in this study were prostate cancer (10%), thyroid cancer (10%), and ovarian cancer (8.6%). Type of surgery was classified into two categories: major and minor surgery. Major surgeries were mostly performed in this study: open reduction internal fixation (22.9%), laparotomy (17.1%), prostatectomy (10%), and thyroidectomy (10%). Minor surgery had a considerably high percentage: appendectomy (7.1%) and tonsillectomy (7.1%), as shown in Table 4-4.

**Table 4-3** Frequency and percentage of patients' demographic data (N= 70)

Demographic data	Frequency	Percentage
1. Age ( $\bar{X}$ = 39.7 years, SD= 17.3, Range= 18-73)		
18 - 30	27	38.6
31 - 40	14	19.9
41 - 50	6	8.5
51 - 60	11	15.7
over 60	12	17.1
2. Gender		
Male	47	67.1
Female	23	32.9
3. Marital status		
Married	46	65.7
Single	20	28.6
Widow or widower	4	5.7
4. Religion		
Islam	70	100.0
5. Education		
Elementary school	25	35.7
Secondary school	16	22.9
High school	22	31.4
Baccalaureate	5	7.1
Graduate school	2	2.9
6. Occupation		
Entrepreneur	17	24.3
Farmer	15	21.4
Student	11	15.7
Private employee	11	15.7
Retired	9	12.9
Government employee	7	10.0
7. Having an operation before		
No	50	71.4
Yes	20	28.6
8. Number of operation		
Once	15	21.4
Twice	4	5.7
Three times	1	1.4
9. Level of anxiety ( $\bar{X}$ = 3.8, SD= 1.7, Range= 1-7.8)		
Low (1 - 2.0)	12	17.1
Moderate (2.1 - 5.5)	45	64.3
High (5.6 - 7.8)	13	18.6

**Table 4-4** Types of diagnosis and surgery of pre-operative patients (N= 70)

Types of diagnosis and surgery	Frequency	Percentage
<b>Diagnostic categories</b>		
Fracture	16	22.9
Cancer	28	40.0
Prostate cancer	7	10.0
Thyroid cancer	7	10.0
Ovarian cancer	6	8.6
Colon cancer	5	7.1
Breast cancer	3	4.3
Inflammation and infection	19	27.1
Appendicitis	5	7.1
Tonsillitis	5	7.1
Hemorrhoid	4	5.7
Urolithiasis	2	2.9
Hernia	2	2.9
Peritonitis	1	1.4
Others	7	10.0
<b>The types of surgery</b>		
Major surgery	37	52.9
Open Reduction Internal Fixation	16	22.9
Laparotomy	12	17.1
Prostatectomy	7	10.0
Mastectomy	2	2.9
Thyroidectomy	7	10.0
Minor surgery	26	37.1
Appendectomy	5	7.1
Tonsillectomy	5	7.1
Hemorrhoidectomy	4	5.7
Herniorrhaphy	2	2.9
Urolithotomy	2	2.9
Others	8	11.4

## 2. Levels of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients

Total scores of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients were calculated. Test of normality and

homogeneity of variances regarding total scores of caring practices between the two groups was examined with Kolmogorov-Smirnov in SPSS version 10.0. The assumptions of normal distribution were met. The total scores of caring practices were categorized into three levels: low level below (mean - 1 SD), moderate level (mean  $\pm$  1 SD), and high level above (mean + 1 SD). Score range of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients were categorized into three levels, see Table A-1.

Table 4-5 shows the levels of caring practices in reducing pre-operative anxiety as perceived by surgical nurses. The majority of surgical nurses perceived overall caring practices in reducing pre-operative anxiety at moderate level (62.8%). They also perceived assessment-evaluation and intervention of pre-operative anxiety at moderate level (65.7% and 65.7%, respectively). The majority of patients perceived overall caring practices in reducing pre-operative anxiety at moderate level (64.3%), assessment-evaluation of pre-operative anxiety at moderate level (68.6%), and intervention at moderate level (64.3%).

Furthermore, the majority of surgical nurses perceived seven caring subscales in reducing pre-operative anxiety at moderate levels. Most surgical nurses tended to perceive subscales of caring practices in reducing pre-operative anxiety at moderate to low levels, except for interpersonal teaching-learning. The majority of patients perceived seven caring subscales at moderate level to low level, except for human-need assistance, as shown in Table 4-6.

**Table 4-5** Mean, standard deviation, and the levels of caring practices in reducing pre-operative anxiety as perceived by nurses (N=70) and patients (N=70)

Caring practices	Range of score		Mean	SD	Level		
	Possible score	Actual score			Low %	Moderate %	High %
Total caring practices	42 -210						
Nurses		118-181	151.7	16.2	18.6	62.8	18.6
Patients		102-193	147.5	21.7	18.6	64.3	17.1
Assessment-evaluation	17 - 85						
Nurses		45 - 73	60.8	7.3	20.0	65.7	14.3
Patients		37 - 78	60.3	9.6	15.7	68.6	15.7
Intervention	25 -125						
Nurses		68 - 108	90.9	9.8	18.6	65.7	15.7
Patients		59 - 115	87.2	13.1	20.0	64.3	15.7

**Table 4-6** Mean, SD, and the level of subscales of caring practices in reducing pre-operative anxiety as perceived by nurses (N=70) and patients (N=70)

Caring practices	Range of score		Mean	SD	Level		
	Possible score	Actual score			Low %	Moderate %	High %
<b>Assessment-evaluation</b>							
Helping-trust relationship	1 - 30						
Nurses		18 - 30	22.9	2.6	17.1	70.0	12.9
Patients		5 - 30	22.5	3.7	7.1	85.8	7.1
Expression of feelings	1 - 30						
Nurses		15 - 27	20.5	2.9	20.0	62.9	17.1
Patients		10 - 30	20.9	4.4	18.6	68.5	12.9
Existential-phenomenological forces	1 - 25						
Nurses		11 - 21	17.5	2.8	17.1	72.9	10.0
Patients		10 - 23	16.9	3.2	17.1	75.8	7.1



**Table 4-6 (Continued)**

Caring practices	Range of score		Mean	SD	Level		
	Possible score	Actual score			Low %	Moderate %	High %
<b>Intervention</b>							
Human-faith-hope-sensitivity	1 - 30						
Nurses		17 - 26	22.7	2.1	18.6	68.5	12.9
Patients		15 - 30	22.7	3.6	18.6	65.7	15.7
Teaching-learning	1 - 40						
Nurses		20 - 34	28.4	3.1	18.6	61.4	20.0
Patients		18 - 38	26.9	5.0	25.7	54.3	20.0
Supportive-protective-corrective environment	1 - 40						
Nurses		19 - 39	30.0	4.0	11.4	78.6	10.0
Patients		18 - 39	27.7	4.6	17.1	71.5	11.4
Human-need assistance	1 - 15						
Nurses		5 - 13	9.7	2.3	20.0	70.0	10.0
Patients		5 - 13	9.8	2.0	14.3	64.3	21.4

Table 4-7 shows nurses' perception and patients' perception of caring subscales ordered by mean scores. Nurses' mean scores of seven caring subscales ranged from 3.25 to 3.81 and mean scores of patients' perception of seven subscales ranged from 3.27 to 3.79 on scale of 1-5. Helping-trust relationship (mean=3.81) and human-faith-hope-sensitivity (mean=3.78) were perceived by surgical nurses and patients at the two highest mean scores. Surgical nurses perceived interpersonal teaching-learning at the fourth highest mean score (mean=3.55), but patients perceived it at the second lowest mean score (mean=3.37). Patients perceived expression of feelings at the third highest score (mean=3.48), but nurses did so at the second lowest score (mean=3.42). Surgical nurses and patients perceived human-need assistance at the lowest score.

**Table 4-7** Nurses' and patients' perception of caring subscales ordered by mean scores

Surgical nurses		Pre-operative patients	
Subscales of caring practices	Mean	Subscales of caring practices	Mean
1. Helping-trust relationship	3.81	1. Human-faith-hope-sensitivity	3.79
2. Human-faith-hope-sensitivity	3.78	2. Helping-trust relationship	3.75
3. Supportive-protective-corrective environment	3.76	3. Expression of feelings	3.48
4. Teaching-learning	3.55	4. Supportive-protective-corrective environment	3.47
5. Existential-phenomenological forces	3.49*	5. Existential-phenomenological forces	3.38*
6. Expression of feelings	3.42	6. Teaching-learning	3.37
7. Human-need assistance	3.25*	7. Human-need assistance	3.27*

\* Subscale is the same rank between surgical nurses and patients

Table 4-8 shows that surgical nurses perceived caring actions in assessment-evaluation of pre-operative anxiety in a positive way, however few caring actions negatively. The majority of surgical nurses perceived caring actions in helping-trust relationship at good quality of caring practices. The findings show that surgical nurses perceived caring actions of really listening to patients when they expressed their anxiety at highest mean score of 4.13 and at good quality of caring practices (70%) and accepting patients' feelings of anxiety without judging them at the mean score of 4.13 and at good quality of caring practices (64.3%). Surgical nurses perceived caring action of checking the level of patients' anxiety at the mean score of 3.39 and at moderate quality of caring practices (47.1%).

**Table 4-8** Mean scores and percentage of nurses' perception on caring practices regarding to assessment-evaluation of pre-operative anxiety

Caring practices	Mean	Quality of caring practices				
		1	2	3	4	5
<b>Helping-trust relationship</b>	3.81	0.9	1.4	27.9	55.5	14.3
1. You check patients' anxiety level before surgery	3.39	5.7	2.0	47.1	35.7	8.5
2. You really listen to patients when they express their anxiety.	4.13	-	-	8.6	70.0	21.4
3. You accept patients' feelings of anxiety without judging them.	3.84	-	-	25.7	64.3	10.0
4. You tell patients what you are going to do to reduce their anxiety.	3.73	-	4.3	27.1	60.0	8.6
5. You give patients full attention when they feel anxiety.	3.90	-	4.3	27.1	60.0	8.6
6. You respond quickly when they feel anxiety.	3.86	-	1.4	30.0	50.0	18.6
<b>Expression of feelings</b>	3.42	2.1	9.3	40.0	41.5	7.1
7. You encourage patients to talk about how they feel anxious.	3.80	-	1.4	30.0	55.7	12.9
8. You ask your patients to evaluate their anxiety experience before surgery.	3.34	-	7.1	57.0	30.0	12.9
9. You encourage your patients to tell why they feel anxious	3.81	-	1.4	27.1	60.0	11.4
10. You ask your patients about factors that can make more severe pre-operative anxiety.	3.57	-	7.1	35.7	50.0	7.1
11. You ask your patients to determine the level of anxiety.	3.01	5.7	20.0	45.7	24.3	4.3
12. You encourage your patients to describe the most severe and least anxiety that they have experienced during the past 24 hours	2.99	7.1	18.6	44.3	28.6	1.4
<b>Existential-phenomenological forces</b>	3.49	2.3	6.6	36.0	50.0	5.1
13. You observe signs of anxiety.	3.79	-	2.9	25.7	61.4	10.0
14. You ask patients about factors that can reduce the severity of their anxiety.	3.67	-	1.4	35.7	57.1	5.7
15. You ask patients about coping methods or alternative therapies that they use to reduce the anxiety.	3.46	-	8.6	40.0	48.6	2.9
16. You ask patients what pre-medication can reduce pre-operative anxiety.	3.16	5.7	11.4	45.7	35.8	1.4
17. You ask patients how they feel after taking pre-medication.	3.39	5.7	8.6	32.9	47.1	5.7

Caring quality <sup>1</sup> Very poor <sup>2</sup> Poor <sup>3</sup> Moderate <sup>4</sup> Good <sup>5</sup> Very good

Most surgical nurses perceived expression of feelings at good quality and at moderate quality of caring practices. Surgical nurses encouraged patients to tell why they felt anxious at highest mean score of 3.81 and at good quality of caring practices

(60%). Asking patients to determine the level of anxiety was perceived by surgical nurses at mean score of 3.01 and at moderate quality of caring practices (45.7%). Patients perceived caring action of encouraging patients to describe the most and least anxiety that they experienced during the past 24 hours at the lowest mean score of 2.99 and at moderate quality of caring practices (44.3%).

The majority of surgical nurses perceived existential-phenomenological forces at good quality of caring practices. The finding shows that observing signs of anxiety had the highest mean score of 3.79 and at good quality of caring practices (61.4%). Surgical nurses perceived caring action of asking patients what pre-medication reduced pre-operative anxiety at the lowest mean score of 3.16 and at moderate quality of caring practices (45.7%).

Table 4-9 shows nurses' perception of caring actions in intervention of pre-operative anxiety. The majority of surgical nurses perceived human-faith-hope-sensitivity at good quality of caring practices. The finding shows that caring action of encouraging patients to release anxiety had the highest mean score of 3.93 and good quality of caring practices (78.6%), followed by caring action of encouraging patients to be self-confidence in dealing with pre-operative anxiety (mean=3.87) and at good quality of caring practices (84.3%). Being sensitive to patients' anxiety were at the lowest mean score of 3.60 and good quality of caring practices (57.1%).

The majority of surgical nurses perceived interpersonal teaching-learning at good quality of caring practices and three of eight items at moderate quality of caring practices. The finding shows that caring action of explaining to patients about early ambulation, deep breathing, and exercise had the highest mean score of 4.06 and good quality of caring practices (71.4%).

**Table 4-9** Mean scores and percentage of nurses' perception on caring practices regarding to intervention of pre-operative anxiety

Caring practices	Mean	Quality of caring practices				
		1	2	3	4	5
<b>Humanism-faith-hope-sensitivity</b>	3.78	-	1.4	22.4	72.6	3.6
1. You are willing to care for patients encountering pre-operative anxiety.	3.74	-	1.4	27.1	67.1	4.3
2. You encourage patients to release their anxiety.	3.93	-	-	14.3	78.6	7.1
3. You are sensitive to patients' feelings of anxiety.	3.60	-	2.9	37.1	57.1	2.9
4. You treat patients encountering pre-operative anxiety as an individual.	3.71	-	4.3	21.3	72.0	1.4
5. You treat patients encountering pre-operative anxiety with respect.	3.84	-	-	20.0	75.7	4.3
6. You encourage patients to be self-confident in dealing with pre-operative anxiety.	3.87	-	-	14.3	84.3	1.4
<b>Interpersonal teaching learning</b>	3.55	0.9	5.4	37.1	50.9	5.7
7. You encourage patients to ask any questions about their anxiety and treatments.	3.61	-	5.7	30.0	61.4	2.9
8. You explain patients about relevant alternative therapies for reducing pre-operative anxiety.	3.64	1.4	1.4	35.8	54.3	7.1
9. You explain patients about pre- medication.	3.47	4.3	2.9	35.7	55.7	1.4
10. You explain patients about surgical procedures and possible sensory effects that patients may experience.	3.67	-	1.4	34.3	60.0	4.3
11. You explain your patients about early ambulation, deep breathing, and exercise.	4.06	-	-	11.4	71.4	17.1
12. You explain your patients about operating-room environment.	3.36	1.4	10.0	48.6	31.4	8.6
13. You teach patients how to evaluate and report the anxiety to nurses.	3.23	-	11.4	55.7	31.4	1.4
14. You facilitate your patients to perform some distracted activities when they feel anxiety.	3.37	-	10.0	45.7	41.4	2.9
<b>Supportive-protective-corrective environment</b>	3.76	1.2	6.1	23.4	54.5	14.8
15. You visit patients to give psychological support.	4.00	-	1.4	11.4	72.9	14.3
16. You apply touching therapy to provide comfort when they feel anxiety.	3.84	-	5.7	24.3	50.0	20.0
17. You cheer patients up when they encounter pre-operative anxiety.	3.96	-	4.3	15.7	60.0	20.0
18. You consider patient's spiritual need related to anxiety	3.81	-	4.3	22.9	60.0	12.9
19. You offer magazine or newspaper to make patients more comfortable when they feel anxiety	2.74	10.0	28.6	38.6	22.0	-
20. You encourage patients to do what they can relieve anxiety.	3.74	-	2.9	31.4	54.3	11.4
21. You manage a calm and safe environment to reduce pre-operative anxiety	3.79	-	1.4	30.0	57.1	11.4
22. You allow patients' family to stay with your patients during pre-operative phase.	4.16	-	-	12.9	58.6	28.6
<b>Human-need assistance</b>	3.25	5.3	13.3	38.6	37.1	5.7
23. You inform patients that their family has known the progress of patients' pre-operative anxiety.	3.24	2.9	10.0	51.4	31.4	4.3
24. You provide some alternative therapy or activities to reduce patients' anxiety.	3.59	-	7.1	35.7	48.6	8.6
25. You administer required anxiety medications when alternative therapies do not work to reduce anxiety.	2.91	12.9	22.9	28.6	31.4	4.3

Caring quality <sup>1</sup> Very poor <sup>2</sup> Poor <sup>3</sup> Moderate <sup>4</sup> Good <sup>5</sup> Very good

Teaching patients how to evaluate and to report the anxiety to nurses had the lowest mean score of 3.23 and moderate quality of caring practices (55.7%).

The majority of surgical nurses perceived supportive-protective-corrective environment at good quality of caring practices. Two caring actions: allowing patients' family to stay with patients during pre-operative phase and visiting patients to give psychological support had the two highest mean scores of 4.16 and 4.00, respectively. The former had good quality of caring practices (58.6%) and very good quality of caring practices (28.6%). The latter had good quality of caring practices (72.9%).

In human-need assistance, surgical nurses perceived caring action of providing some alternative therapies or activities to reduce patients' anxiety at the highest mean score of 3.59 and at good quality of caring practices (48.6%). Administering anxiety medications when alternative therapies do not work to reduce pre-operative anxiety had the lowest mean score of 2.91 and very poor quality of caring practices (12.9%) and poor quality of caring practices (22.9%).

Table 4-10 shows patients' perception of caring actions in assessment-evaluation of pre-operative anxiety. The majority of patients perceived helping-trust relationship at good quality of caring practices. Patients perceived caring action of listening them when they expressed their anxiety at the highest mean score of 3.86 and at good quality of caring practices (55.7%). Telling patients what nurses did to reduce anxiety had the lowest mean score of 3.63 and good quality of caring practices (41.4%).

Most patients perceived expression of feelings at good quality of caring practices. Patients' perception of encouraging patients to talk about how they felt

anxious had the highest mean score of 3.67 and good quality of caring practices (54.3%). Patients perceived caring action of asking about factors that made more severe anxiety at the lowest mean score of 3.21 and at good caring quality (45.7%).

**Table 4-10** Mean scores and percentage of patients' perception on caring practices regarding to assessment-evaluation of pre-operative anxiety

Caring practices	Mean	Quality of caring practices				
		1	2	3	4	5
<b>Helping-trust relationship</b>	3.75	2.1	4.5	24.3	54.1	15.0
1. Nurses check your anxiety level before surgery.	3.67	2.9	7.1	21.4	57.1	11.4
2. Nurses really listen to you when you express your anxiety.	3.86	1.4	1.4	24.3	55.7	17.1
3. Nurses accept your feelings of anxiety without judging them.	3.80	1.4	2.9	20.0	65.7	10.0
4. Nurses tell you what nurses are going to do to reduce your anxiety.	3.63	1.4	7.1	34.3	41.4	15.7
5. Nurses give you full attention when you feel anxiety.	3.81	4.3	4.3	18.6	51.4	21.4
6. Nurses respond quickly when you feel anxiety.	3.74	1.4	4.3	27.1	52.9	14.3
<b>Expression of feelings</b>	3.79	2.6	13.1	29.5	44.8	10.0
7. Nurses encourage you to talk about how you feel anxious.	3.67	-	10.0	24.3	54.3	11.4
8. Nurses ask you to evaluate your anxiety experience before surgery.	3.41	2.9	12.9	35.7	37.1	11.4
9. Nurses encourage you to tell why you feel anxious	3.53	-	14.3	30.0	44.3	11.4
10. Nurses ask you about factors that can make more severe anxiety.	3.21	5.7	18.6	27.1	45.7	2.9
11. Nurses ask you to determine the level of anxiety.	3.47	2.9	14.3	28.6	41.4	12.9
12. Nurses encourage you to describe the most severe and least anxiety that you have experienced during the past 24 hours	3.49	4.3	8.6	31.4	45.7	10.0
<b>Existential-phenomenological forces</b>	3.38	4.0	12.5	32.0	44.6	6.9
13. Nurses observe signs of anxiety.	3.40	4.3	11.4	31.4	45.7	7.1
14. Nurses ask you about factors that can reduce the severity of your anxiety.	3.67	-	8.6	27.1	52.9	11.4
15. Nurses ask you about coping methods or alternative therapies that you use to reduce the anxiety.	3.29	2.9	15.7	37.1	38.6	5.7
16. Nurses ask you what pre-medication can reduce pre-operative anxiety.	3.21	7.1	11.4	35.7	44.3	1.4
17. Nurses ask you about how they feel after taking pre-medication.	3.31	5.7	15.7	28.6	41.4	8.6

Caring quality <sup>1</sup> Very poor <sup>2</sup> Poor <sup>3</sup> Moderate <sup>4</sup> Good <sup>5</sup> Very good

The majority of patients perceived existential-phenomenological forces at good quality of caring practices. Caring action of asking patients about factors that

reduced the severity of patients' anxiety had the highest mean score of 3.67 and good quality of caring practices (52.9%). Patients perceived caring action of asking them what pre-medication reduced pre-operative anxiety at the lowest mean score of 3.21 and very poor quality (7.1%) and at poor quality of caring practices (11.4%).

Table 4-11 shows patients' perception of caring actions in intervention of pre-operative anxiety. The majority of patients perceived humanism-faith-hope-sensitivity at good quality of caring practices. Treating patients encountering pre-operative anxiety with respect had the highest mean score of 4.04 and good quality and very good of caring practices (51.4% and 27.2%, respectively). Patients perceived caring action of being sensitive to patients' feelings of anxiety at the mean score of 3.51, at very poor and poor quality of caring practices (1.4% and 8.6%, respectively).

The majority of patients perceived interpersonal teaching-learning at good quality of caring practices, except for two of seven items at moderate quality of caring practices. Caring action of encouraging patients to ask any questions about the patients' anxiety and treatments had the highest mean score of 3.56 and good quality of caring practices (40%). Caring actions of explaining to patients about operating room environment and teaching patients how to evaluate and to report anxiety to nurses had the two lowest mean scores of 3.06 and 3.29, respectively. Patients perceived them at moderate quality of caring practices (40% and 40%, respectively).

Most patients perceived supportive-protective-corrective environment at good quality of caring practices. Patients perceived caring action of allowing patients' family to stay with patients during pre-operative phase at the highest mean score of 4.06 and at good caring quality (52.9%).



**Table 4-11** Mean scores and percentage of patients' perception on caring practices regarding to intervention of pre-operative anxiety

Caring practices	Mean	Quality of caring practices				
		1	2	3	4	5
<b>Humanism-faith-hope-sensitivity</b>	3.79	0.2	5.0	28.3	49.8	16.7
1. Nurses are willing to care for you encountering pre-operative anxiety.	3.81	-	5.7	27.1	47.1	20.0
2. Nurses encourage you to release your anxiety.	3.69	-	4.3	34.3	50.0	11.4
3. Nurses are sensitive to your feelings of anxiety.	3.51	1.4	8.6	34.3	48.6	7.1
4. Nurses treat you encountering pre-operative anxiety as an individual.	3.59	-	7.1	37.2	45.7	10.0
5. Nurses treat you encountering pre-operative anxiety with respect.	4.04	-	1.4	20.0	51.4	27.2
6. Nurses encourage you to be confidence to deal with pre-operative anxiety.	4.01	-	2.8	17.1	55.8	24.3
<b>Interpersonal teaching learning</b>	3.75	3.2	12.0	38.2	38.0	8.6
7. Nurses encourage you to ask any questions your anxiety and treatments.	3.56	-	4.3	45.7	40.0	10.0
8. Nurses explain relevant alternative therapies to you for alleviating anxiety	3.41	4.3	8.6	37.1	41.4	8.6
9. Nurses explain you about pre-medication.	3.44	5.7	7.1	35.7	40.0	11.4
10. Nurses explain you surgical procedures and possible sensory effects that you may experience	3.39	2.9	14.3	35.7	35.7	11.4
11. Nurses explain you about early ambulation, deep breathing, and exercise	3.46	4.3	8.6	42.9	45.7	8.6
12. Nurses explain you operating-room environment.	3.06	4.3	24.3	40.0	24.3	7.1
13. Nurses teach you how to evaluate and report the anxiety to them.	3.29	2.9	14.3	40.0	37.1	5.7
14. Nurses facilitate you to perform some distracted activities when you feel anxiety.	3.34	1.4	14.3	38.6	40.0	5.7
<b>Supportive-protective-corrective environment</b>	3.47	4.1	10.4	31.4	42.9	11.2
15. Nurses visit you to give psychological support.	3.90	-	5.7	15.7	61.5	17.1
16. Nurses apply touching therapy to provide comfort when you feel anxiety.	3.60	-	11.4	28.6	48.6	11.4
17. Nurses cheer you up when you encounter anxiety	3.61	1.4	8.6	32.9	41.4	15.7
18. Nurses consider your spiritual need related to your anxiety.	3.37	4.3	5.7	45.7	37.1	7.1
19. Nurses offer magazine or newspaper to make you more comfortable when you feel anxiety.	2.46	21.4	34.3	22.9	20.0	1.4
20. Nurses encourage you to do what you can relieve anxiety.	3.34	2.9	5.7	48.6	40.0	2.9
21. Nurses manage a calm and safe environment to reduce pre-operative anxiety	3.40	2.9	10.0	38.6	41.4	7.1
22. Nurses allow your family to stay with you during pre-operative phase.	4.06	-	1.4	18.6	52.9	27.1
<b>Human-need assistance</b>	3.27	5.2	11.0	39.5	40.0	4.3
23. Nurses inform you that your family has known the progress of your pre-operative anxiety.	3.41	-	10.0	44.3	40.0	5.7
24. Nurses provide some alternative therapy or activities to reduce your anxiety.	3.51	-	7.1	40.0	47.2	5.7
25. Nurses administer required anxiety medications when alternative therapies do not work to reduce pre-operative anxiety.	2.89	15.7	15.7	34.3	32.9	1.4

Caring quality <sup>1</sup> Very poor <sup>2</sup> Poor <sup>3</sup> Moderate <sup>4</sup> Good <sup>5</sup> Very good

Visiting patients to give psychological support had the mean score of 3.90 and good quality of caring practices (61.5%). Considering patients' spiritual need related to anxiety had the mean score of 3.37 and moderate quality of caring practices (45.7%). Offering magazine or newspaper to make patients more comfortable when they felt anxiety had the lowest mean score of 2.46 and very poor quality and poor quality of caring practices (21.4% and 34.3%, respectively).

The majority of patients perceived human-need assistance at moderate quality of caring practices. Patients perceived caring action of providing some alternative therapies or activities to reduce patients' anxiety at the highest mean score of 3.51 and at good quality of caring practices (47.2%). Administering anxiety medications when alternative therapies do not work to reduce pre-operative anxiety had the lowest mean score of 2.89 and at moderate quality of caring practices (34.3%).

### **3. The differences between caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients**

The differences of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients were examined by using independent t-test. The assumptions of the independent t-test were examined. These included tests of normality and homogeneity of variances between the two groups and the assumptions were met in most variables. It was then accepted for further inferential analysis. Independent t-test was used to examine the differences between mean scores of surgical nurses' perception and patients' perception of caring practices in reducing pre-operative anxiety.

Table 4-12 shows that the scores of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients were not significantly different ( $t=1.31, p>.05$ ). There was also a non-significant difference in the subscale of both assessment-evaluation of pre-operative anxiety ( $t=.4, p>.05$ ) and intervention ( $t=1.88, p>.05$ ).

**Table 4-12** Mean, standard deviation, and t-value of caring practices in reducing pre-operative anxiety as perceived by nurses (N=70) and patients (N=70)

Caring practices	Mean	SD	t
Overall caring practices			
Nurses	3.61	.38	1.31
Patients	3.51	.51	
Assessment-evaluation			
Nurses	3.58	.43	0.40
Patients	3.55	.56	
Intervention			
Nurses	3.64	.39	1.88
Patients	3.49	.53	

Table 4-13 shows that subscales of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients were not significantly different, except for two subscales. There was a non-significant difference between nurses' perception and patients' perception of assessment-evaluation of pre-operative anxiety, as follows: helping-trust relationship ( $t=.63, p>.05$ ), expression of feelings ( $t=-.55, p>.05$ ), and existential-phenomenological forces ( $t=1.13, p>.05$ ). For intervention, there was also a non-significant difference between nurses' perception and patients'

perception of human-faith-sensitivity and human-need assistance, but a significant difference on two subscales: interpersonal teaching-learning ( $t=2.09$ ,  $p<.05$ ) and supportive-protective-corrective environment ( $t=3.17$ ,  $p<.01$ ).

**Table 4-13** Mean, SD, and t-value of caring subscales in reducing pre-operative anxiety as perceived by surgical nurses (N=70) and patients (N=70)

Caring practices	Mean	SD	t
<b>Assessment-evaluation</b>			
Helping-trust relationship			
Nurses	3.81	.44	0.63
Patients	3.75	.64	
Expression of feelings			
Nurses	3.42	.48	-0.55
Patients	3.48	.73	
Existential-phenomenological forces			
Nurses	3.49	.56	1.13
Patients	3.38	.64	
<b>Intervention</b>			
Human-faith-hope-sensitivity			
Nurses	3.78	.35	-0.03
Patients	3.79	.59	
Interpersonal teaching-learning			
Nurses	3.55	.39	2.09*
Patients	3.37	.63	
Supportive-protective-corrective environment			
Nurses	3.76	.50	3.17**
Patients	3.47	.57	
Human-need assistance			
Nurses	3.25	.78	-0.20
Patients	3.27	.65	

\*  $p<.05$  \*\*  $p<.01$

## **Discussion**

This study aimed to examine the differences of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients in Banyumas, Central Java, Indonesia. The findings are discussed in three parts: (1) subject characteristics, (2) the levels of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients, and (3) the differences of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients.

### **1. The subjects' characteristics**

#### **Nurses' characteristics**

The age of surgical nurses ranged from 20 to 47 years (mean=30.31, SD=6.32). Most surgical nurses were young adult nurses, ranging from 20 to 30 years (57.2%) and 31 to 40 years (34.4%). Female nurses comprised a higher percentage (58.6%) than male nurses (41.4%). This number might correspond to general population of nurses in Indonesia, which female and male nurses ratio were about 5:3 (INNA, 2000). In addition, there is no social restriction for males to become nurses and find job opportunity elsewhere. There was also evidence that the growing number of male students in basic nursing programs as well as the increasing number of male nurses choosing to work in areas such as AIDS care or community care (Fox, Aiken, & Messikomer, 1990). This may offer further support for the changing image of nursing as women's work, and may indicate a change in stereotypes about caring as well. With respect to gender, the differences between caring practices in reducing pre-operative anxiety as perceived by female nurses and male nurses were analyzed and were found to be a non-significant difference (Table A-4). However, female nurses may perceive the caring practices in more technical and professional aspects than

males (Ekstrom, 1999; Greenhalgh, Vanhanen, & Kyngas, 1998; Watson & Lea, 1998).

The majority of subjects graduated from Diploma III of Nursing (98.6%) and only one subject earned Bachelor of Nursing. This finding was similar to the study of Asrin (2003) who reported that there were about 85% of Diploma nurses in medical and surgical wards at Prof. Margono Soekarjo Hospital. Moreover, the majority of nurses (72.8%) had worked for less than 5 years (mean=4.6 years, SD=5), some of them were young nurses or rotated from other wards. In addition, most of them did not have experience of pre-operative anxiety management and only 7% of surgical nurses had previously attended the course in anxiety management for 4 days from other hospitals. At the three hospitals, there was no in-service training for caring practices or anxiety management, which could help surgical nurses improve knowledge and skills in reducing pre-operative anxiety.

### **1.2 Patients' characteristics**

The age of the subjects ranged from 18 years to 73 years (mean=39.7 years, SD=17.3). The majority of the subjects were male. After testing the differences between female patients' perception and male patients' perception of caring practices in reducing pre-operative anxiety, there were no statistically significant differences (Table A-5). Although findings of several studies focusing on patients' perceptions of nurse caring suggest gender-related differences (William, 1997), this may not generally be found. Parson, Kee, and Gray (1993) supported this point that there was a non-significant difference between male patients' perception and female patients' perception of caring behaviors in the perioperative phase. Surgical patients were understandably anxious and fearful. These characteristics occasionally distorted

awareness of the social and physical environment, so that nurses' perception and patients' perception of caring behaviors were not much different.

The findings show that three diagnostic groups were identified for patients, namely fracture, cancer, and infection. The types of surgery most commonly performed were open reduction and internal fixation, laparotomy, prostatectomy, thyroidectomy, and appendectomy. The majority of patients did not have surgical experience. Analyzing perception of patients having surgery regarding caring practices in reducing pre-operative anxiety was not significantly from those did not have surgical experience, see Table A-6. However, most of them had pre-operative anxiety at moderate level, ranging from 1 to 7.8 (mean=3.8, SD=1.7). Gaberson (1995) reported that pre-operative patients had anxiety with a mean of 3.34 (SD=2.60), assessed with a Visual Analog Scale. After analyzing the differences between three levels of anxiety and patients' perception of caring practices in reducing pre-operative anxiety, there was no significant difference (Table A-7). This finding might relate to the level of pre-operative anxiety and the level of caring practices. The majority of patients experienced pre-operative anxiety at moderate level and the caring practices at moderate level. The anxiety level did not have any relationship with perception of caring practices; therefore, patients' perception of caring practices in reducing pre-operative anxiety was homogenous.

## **2. Level of caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients**

**Level of caring practices in reducing pre-operative anxiety as perceived by surgical nurses**

The findings show that surgical nurses perceived total caring practices in reducing pre-operative anxiety at moderate level (62.8%) including assessment-evaluation at moderate level (65.7%) and intervention at moderate level (65.7%), see Table 4-5. Assessment-evaluation of pre-operative anxiety consists of helping-trust relationship, expression of feelings, and existential-phenomenological forces at moderate levels (Table 4-6). The levels of caring practices in reducing pre-operative anxiety: low, moderate, and high level, were classified. Moderate and high levels of the caring practices have to be maintained in daily practices while low levels of the caring practices need to be concerned for further improvement.

Another reason is that the majority of surgical nurses earned Diploma III of Nursing and did not attend course of anxiety management. Surgical nurses provided caring practices in reducing pre-operative anxiety relying on their own knowledge and skills, which gained from formal education. Standard of pre-operative care existing at the three selected hospitals also determined surgical nurses' caring practices in reducing pre-operative anxiety. In-service training of anxiety management is important for improving nurses' knowledge and skills in caring pre-operative anxiety. Further enhancement of caring standard in reducing pre-operative anxiety focuses at low and moderate levels of the caring practices in each caring actions.

As shown in Table 4-7, helping-trust relationship had the highest mean score of the subscales in the nurse group (mean=3.81). This indicates that nurses recognized the important relationships between nurses and patients in reducing pre-operative anxiety. It might occur when nurses developed patients' contribution to work together in the construction of relationship to influence their perceptions of caring practices in reducing anxiety. It depended on to what extent surgical nurses and pre-operative



patients agreed on the important caring practices in reducing pre-operative anxiety. McNamara (1995) supported the finding of this study that surgical nurses focused on establishing trust-relationship in pre-operative phase as essential interpersonal relationships.

Table 4-8 and A-2 show that surgical nurses perceived three caring actions: really listening to patients when they expressed their anxiety at the highest mean score of 4.13, giving full attention when they felt anxiety at the mean score of 3.9, and accepting patients' feeling anxiety without judging them at the mean score of 3.84 and at good quality of caring practices. Surgical nurses performed the former caring action of the therapeutic communications by really listening to patients and giving full attention when they expressed their anxiety. McNamara (1995) also found that nurses focused on listening to patients' expression of anxiety as important caring practices during pre-operative phase.

The finding shows that surgical nurses perceived caring action of checking the level of patients' anxiety at the mean score of 3.39 and at moderate quality of caring practices. It is relevant to caring action of asking patients to determine level of anxiety had the mean score of 3.01 and teaching patients how to evaluate and to report the level of anxiety to nurses the mean score of 3.23 and at moderate quality of caring practices. From this finding, surgical nurses reflected their practices in assessment-evaluation of pre-operative anxiety and practiced assessment-evaluation by observing signs of anxiety for pre-operative patients, interacting, and listening to patients in terms of assessment-evaluation of pre-operative anxiety. The researcher assessed pre-operative anxiety by using a Visual Analog Scale. Gaberson (1995) reported that Horizontal Visual Analog Scale was used to measure pre-operative anxiety in her

study. Nurses need to make an accurate assessment-evaluation of anxiety like pain, which has been defined as 'whatever the experiencing person says it is, existing when the experiencing person says it does' (McCaffery, 1972, pp.8).

In expression of feelings, the finding of this study shows that the majority of surgical nurses encouraged patients to tell why they felt anxious at highest mean score of 3.81 and to talk about how they felt anxious at the mean score of 3.80 and at good quality of caring practices. Surgical nurses were aware of patients' feelings and paid attention by sharing feelings and by talking to explore the patients' pre-operative anxiety. However, assessment-evaluation of pre-operative anxiety in expression of feelings needs nurses' attention. For example, asking patients to evaluate their anxiety experience before surgery at the mean score of 3.34, factors that made more severe pre-operative anxiety at the mean score of 3.57, and to describe the most severe and least anxiety that they experienced during the past 24 hours at the mean score of 2.99. Shuldham et al. (1995) reported that nurses in assessment-evaluation of anxiety might rely on listening, talking, and discussion through interview with patients

The majority of surgical nurses perceived existential-phenomenological at moderate level (Table 4-6). Observing signs of anxiety had the highest mean score of 3.79 and asking patients about factors that reduced pre-operative anxiety had the mean score of 3.67 and good quality of caring practices (Table 4-8). Surgical nurses assessed psychological status, signs of pre-operative anxiety and there were categorized anxiety into three levels: mild, moderate, and severe anxiety. Badger (1994) supported this point that the levels of anxiety ranged from mild to severe anxiety. Mild anxiety is associated with the occurrence of tension on daily living. Moderate anxiety is caused by immediate concerns, narrowing the perceptual field,

which are recognized as strong breathing, uneasiness, and headaches. Severe anxiety is marked by a significant reduction in the perceptual field, disorientation, and lack of awareness of the environment, inability to focus on surroundings. In addition, surgical nurses should assess coping methods or alternative therapies that patients used, and pre-medication, because of asking patients about coping methods or alternative therapies that patients used to reduce anxiety at the mean score of 3.46, pre-medication reducing pre-operative anxiety at the mean score of 3.16, and how they felt after taking pre-medication at the mean score of 3.39.

Table 4-6 shows that surgical nurses perceived intervention of pre-operative anxiety, which included human-faith-hope-sensitivity, interpersonal teaching-learning, supportive-protective-corrective environment, and human-need assistance in reducing pre-operative anxiety at moderate levels. Surgical nurses perceived human-faith-hope-sensitivity at moderate level (68.5%) and the second highest mean score of 3.78. As shown in Table 4-9, surgical nurses perceived three caring actions: encouraging patients to release anxiety at the highest mean score of 3.93, to be self confident at the mean score of 3.87, and treating patients encountering anxiety with respect at the mean score of 3.84. Surgical nurses encouraged patients to reduce anxiety by their own methods that they usually used to deal with anxious situations. The majority of surgical nurses taught deep breathing and encouraged them to talk to their family. In addition, caring action of being sensitive to patients' feelings of anxiety had the mean score of 3.60 and good quality of caring practices. Surgical nurses reflected that their sensitivity to the patients' anxiety were positive. Rassool (2000) stated that Moslem nurses might gain sensitive as Islamic teaching to surgical patients to achieve good quality of caring practices. McNamara (1995) supported that

nurses frequently described being sensitive to patients and family members' feelings of anxiety as caring.

Interpersonal teaching-learning was perceived by surgical nurses at moderate level (61.49%). In surgical ward, there was no brochure or guideline of pre-operative teaching what nurses should explain in pre-operative teaching. Caring action of explaining to patients about early ambulation, deep breathing, and exercise had the highest mean score of 4.06. Explaining to patients about surgical procedures and possible sensory effects that they experienced had at the mean score of 3.67 and at good quality of caring practices. Surgical nurses already taught patients early ambulation, deep breathing, exercise, surgical procedures, and possible sensory effects that patients might experience. McNamara (1995) stated that interpersonal teaching-learning was specific caring practice in the pre-operative phase, so that pre-operative teaching needed further enhancements. For example, explaining to patients about operating-room environment, pre-medication, details of anesthesia (Mitchell, 2003; Mittisorn, 2001; Mordiffi, 2003), risk of surgery, and prognosis of surgery (Vuoresheimo & Leino-Kilpi, 1993). Caring actions, teaching patients how to evaluate and to report anxiety to nurses, explaining relevant alternative therapies for reducing pre-operative anxiety, and facilitating patients to perform some distractions, should be improved in clinical settings. Dalayon (1994) recommended that the use of structured pre-operative teaching was better than that of unstructured teaching.

Surgical nurses perceived caring actions in supportive-protective-corrective environment at moderate level (78.6%) and at good quality of caring practices. The findings show that allowing patients' family to stay with them during pre-operative phase, cheering patients up when they encountered pre-operative anxiety, and visiting

patients to give psychological support had good quality and very good quality of caring practices. McNamara (1995) reported that nurses identified providing support, protecting, and promoting safety for patients as primary caring practices in the pre-operative phase and perceived physical presence with patients as an important caring practice. Martin (1996) supported that the effects of pre-operative visits by nurses could reduce significantly pre-operative anxiety. Hughes (2002) also supported this finding that a pre-operative visit by an anesthetist could reduce pre-operative anxiety and related signs and symptoms, such as fear of pain and fear of not waking up. However, caring action of offering some things, such as magazine or newspaper, to make patients more comfortable was perceived by surgical nurses as the lowest mean score of 2.74 and at poor quality of caring practices (38.6%). Surgical nurses needed to pay attention to this caring action, reading magazine or newspaper helped patients deal with anxiety and feel relaxed and comfortable in pre-operative phase.

Human-need assistance had the lowest mean score of 3.25 among caring subscales and at moderate level (70%). Surgical nurses perceived caring action of providing some alternative therapies or activities to reduce patients' anxiety at the highest mean score of 3.59 and at good quality of caring practices. Alternative and complementary therapy as independent nursing intervention could be applied to alleviate pre-operative anxiety. Surgical nurses applied praying in Islam to help patients deal pre-operative anxiety and feel confident to face surgery. McNamara (1995) reported that nurses introduced the caring practice of praying with patients in pre-operative anxiety.

The finding shows that nurses gave less information to the patients' family regarding the progress of patients' anxiety at the mean score of 3.24 and at poor

quality of caring practices (10%). From this finding, surgical nurses should improve caring practice in terms of giving information to patients' family about the progress of patients' anxiety and collaborate with family to reduce patients' anxiety. Another finding shows that administering anxiety medications for patients when alternative therapies do not work to reduce pre-operative anxiety had the lowest mean score of 2.91 and poor quality of caring practices. Although the majority of patients had moderate level of anxiety (64.3%), surgical nurses administered anxiety drugs for few patients and perceived this caring action at poor quality of caring practices.

To sum up, the majority of surgical nurses perceived caring practices in reducing pre-operative anxiety at moderate level. The seven subscales of caring practices were also demonstrated at moderate levels. Caring actions, which show at poor quality of caring practices, should be explored and observed in order to improve further interventions for pre-operative patients.

#### **Level of caring practices in reducing pre-operative anxiety as perceived by patients**

As shown in Table 4-5, the majority of patients perceived overall caring practices in reducing pre-operative anxiety at moderate level (64.3%) and assessment-evaluation of pre-operative anxiety at moderate level (68.6%) and intervention of pre-operative anxiety at moderate level (64.3%). Table 4-6 shows that assessment-evaluation of pre-operative anxiety included helping-trust relationship, expression of feelings, and existential-phenomenological forces at moderate levels. These findings relate to the homogeneity of patients' stay before surgery, where surgical patients who stayed at least a day before surgery was recruited in this study. Another reason is that

the majority of patients earned elementary school, secondary school, and high school. Parsons et al. (1993) reported that lengths of hospital stay and patients' educational backgrounds did not significantly influence patients' perceptions of caring practices and importance of caring behaviors. In addition, caring practices in reducing pre-operative anxiety as perceived by patients at high level should be maintained and the caring practices at low and moderate level should be improved for further interventions.

The majority of patients perceived helping-trust relationship at moderate level (85.8%) and the second highest mean score of 3.75 among seven caring subscales (Table 4-7). This finding clearly shows that surgical nurses' attention to their emotional well-being was of great importance. Table 4-10 and A-2 show that four caring actions included in the ten highest mean score: listening to patients when they expressed anxiety at the highest mean score of 3.86, giving patients full attention when they felt anxiety (mean=3.81), accepting patients anxiety without judging them (mean=3.8), and responding quickly when patients felt anxiety (mean=3.74). The former item is the most consistent with previous study that patients were appreciative when nurses paid attention by listening patients' expression of anxiety (Burchiel, 1995). Surgical nurses demonstrated listening to patients when they expressed their anxiety as a therapeutic communication, so nurses also perceived this caring action at the highest mean score in helping-trust relationship. von Essen and Sjoden (1991a) reported that listening to patients included in the ten highest caring behaviors in surgical patients. Although this study applied Larson's concept and CARE-Q, there were the same subscale of trusting relationship and the same item of listening to patients as the caring practices in reducing pre-operative anxiety.

The findings show that patients perceived expression of feelings at moderate level (68.5%), at the third highest mean score of 3.48, and at good quality of caring practices. Patients' perception of encouraging patients to talk about how they felt anxious had the highest mean score of 3.67 and good quality of caring practices. This is consistent with surgical nurses' perception of this caring action at the second highest mean score of 3.80. Patients perceived that surgical nurses assessed and shared patients' feelings of anxiety in order to understand patients' psychological condition for further appropriate interventions. A previous study found that expression of feelings had the lowest mean score in surgical patients (Parsons et al., 1993). Encouraging patients to talk about how they felt anxious is similar to the item of Caring Behavior Assessment "encourage me to talk how I feel" (Cronin & Harrison, 1988b).

Patients and nurses perceived existential-phenomenological forces at moderate level (75.8%) and at the fifth mean score. This finding is consistent with surgical nurses' perception of this caring subscale at the fifth mean score of 3.49 and this caring action at the second highest mean score of 3.67, so that there was agreement between the two groups on this point. The item, which yielded the highest mean score of this subscale, was asking patients about factors that could reduce the severity of patients' anxiety. The assumption that nursing staff do not include patient in sharing decision-making and evaluation, can not be supported. This indicates that the problem could appear clearly that patients experienced more incidents with good reason for the complaints. However, three caring actions included in the ten lowest mean score: asking patients about coping methods or alternative therapies that they used to reduce anxiety (mean=3.29), premedication reducing pre-operative anxiety



(mean=3.21), and how they felt after receiving pre-medication (mean=3.31), as shown in Table A-3. These findings describe that assessment-evaluation of patients' potentials and pre-medication effects need to be enhanced to meet patients' expectation.

From Table 4-6, the findings show that patients perceived subscales of human-faith-hope-sensitivity, interpersonal teaching-learning, supportive-protective-corrective environment, and human-need assistance at moderate levels. Human-faith-hope-sensitivity was perceived by patients at moderate level (65.7%) and at the highest mean score of 3.79. As shown in Table 4-11 and A-2, patients perceived four caring actions in the ten highest mean scores: willing to care for patients encountering pre-operative anxiety, encouraging patients to release their anxiety, treating patients encountering anxiety with respect, and encouraging patients to be confident to deal with pre-operative anxiety. It is relevant to surgical nurses' perception of this caring subscale at the second highest mean score of 3.78. In their responses, patients identified professional competence of surgical nurses, the demonstration of kindness, and consideration as human being among caring actions of nurses (Parson et al., 1993). Caring action of treating patients encountering pre-operative anxiety with respect had the highest mean score of 4.04 and good quality of caring practices, see Table 4-9. Patients received this caring action that surgical nurses treated them with respect as prominent professional nurses. This finding is consistent with Mullins' study (1996). She ranked this caring action in the ten highest mean scores for AIDS/HIV patients. Moreover, patients perceived caring action of being sensitive to patients' feelings of anxiety at the lowest mean score of 3.51 in this caring subscale

and at good quality of caring practices. This caring action was also perceived by surgical nurses at the mean score of 3.6.

The finding shows that the majority of patients perceived interpersonal teaching-learning at moderate level and at good quality of caring practices. Caring action of encouraging patients to ask any questions about the patients' anxiety and treatments had the highest mean score of 3.56 and good quality of caring practices. Patients identified the teaching role of nurses that they were willing to facilitate empowerment for patients to become active partner in pre-operative phase. Manogin (2000) supported that encouraging patients to ask questions about their illness and treatment had the highest rank for women during childbirth.

In addition, caring actions of explaining to patients about operating room environment and teaching patients how to evaluate and to report anxiety to nurses had the two lowest mean scores of 3.06 and 3.29, respectively. Patients perceived them at moderate quality of caring practices and in the ten lowest mean scores (see Table A-3). This implied that pre-operative teaching of operating room and evaluating anxiety level did not satisfy patients' expectation. The pre-operative teaching might be delivered orally; so that patients did not receive the entire given information. These findings should remind surgical nurses to reflect on their caring practices in order to improve the quality of these caring actions.

The findings show that most patients perceived supportive-protective-corrective environment at moderate level and at good quality of caring practices. The highest mean score of caring actions in reducing pre-operative anxiety by patients was allowing patients' family to stay with patients during pre-operative phase. Family always accompanies their family when he or she admits at hospital for surgery.

Koentjaraningrat (1985) reported that Javanese culture has the close bonding relationships to support relatives, especially during time of sickness. Lenzhi (1997) found that companionship by family members or support of relatives support for surgical patients in China was significantly negatively correlated with pre-operative anxiety.

As shown in Table A-3, four caring actions in supportive-protective-corrective environment included in the ten lowest mean scores: offering magazine or newspaper to make patients more comfortable when they felt anxiety at the lowest mean score of 2.46, encouraging patients to do what they could relieve anxiety (mean=3.34), considering spiritual needs related patients' anxiety (mean=3.37), and managing a calm and safe environment to reduce anxiety (3.40) at poor quality of caring practices. These findings relate to that the three hospitals did not provide magazine or newspaper for pre-operative patients, which helped patients felt relaxed and comfortable. All patients were Muslim they might perceive praying as commonly activities in surgery preparation. In addition, pre-operative patients stayed together with other surgical patients, so that nurses found it difficult to manage a calm and safe environment to reduce pre-operative anxiety. From previous studies, Mullin (1996) found that AIDS patients' perception of offering some things to make patients more comfortable in the ten lowest mean scores of caring actions. von Essen and Sjoden (1995) supported that the most important implication was that surgical nurses should be aware of the necessity to validate the effect of their actions upon patients and that they have to check patients' expectations to reach their goal.

Human-need assistance was perceived by patients at moderate level and the lowest mean score 3.27 (Table 4-7). This finding might relate to caring actions, which

were not always performed by surgical nurses, such as giving information to patients' family, providing alternative therapies to reduce anxiety, and administering anxiety drugs when alternative therapies did not work to reduce anxiety, see Table 4-9. Furthermore, alternative therapies, such as praying in Islam way and deep breathing were mostly received by pre-operative patients in reducing pre-operative anxiety. All patients were Muslim, so that praying in Islam way was useful to help patient deal with pre-operative anxiety. The rank of this subscale contradicted with previous studies that human-need assistance had the highest score of caring subscale for emergency, myocardial infarction, and perioperative patients. These studies assessed human-need assistance with scales of Caring Behavior Assessment, "help me with my care until I am able to do it for myself, know how to give intra venous shots, know how to handle equipment" (Baldursdottir & Jonsdottir, 2002; Cronin & Harrison, 1988b; Parsons et al., 1993).

In summary, caring practices in reducing pre-operative anxiety as perceived by patients were at moderate level. The Subscales of caring practices also demonstrated at moderate levels. Surgical nurses should improve caring practices regarding assessment-evaluation and intervention in reducing pre-operative anxiety at moderate and poor quality of caring practices at the three hospitals. The discrepancies of nurses' perception and patients' perception of caring subscales need to be further analyzed.

### **3. The differences between caring practices in reducing pre-operative anxiety as perceived by surgical nurses and patients**

The findings shown in Table 4-12 indicate that both surgical nurses and patients in this study agreed in their views of caring practices in reducing pre-operative anxiety. There were a non-significant difference between the two groups ( $t=1.31$ ,  $p>.05$ ), consistently in assessment-evaluation of pre-operative anxiety ( $t=.4$ ,  $p>.05$ ) and intervention ( $t=1.88$ ,  $p>.05$ ). This is also supported by the non-significant difference between surgical nurses' perception and patients' perception of caring practices in reducing pre-operative anxiety among the three hospitals (Table A-8).

The study's findings might relate to the homogeneity of subjects' religion, as both groups were entirely Muslim. The subjects' educational backgrounds might also relate to the agreement in their views of caring practices that most surgical nurses earned Diploma III of Nursing (98.6%) and the majority of patients graduated elementary, secondary, and high school (90%). Another factor, the short stay before surgery for pre-operative patients, might relate to not significant difference between nurses' perception and patients' perception of caring practices in reducing pre-operative anxiety. In addition, the majority of patients experienced pre-operative anxiety at low moderate level (64.3%) and the differences in their perception of caring practices in reducing pre-operative anxiety were not significantly different (Table A-7). With respect to daily practices at the three hospitals, caring practices in reducing pre-operative anxiety could achieve the quality of care for patients, such as explaining surgical procedures and possible sensory effects after surgery by staff (nurses, anesthetist, and doctor), signing informed consent, explaining early ambulation and deep breathing, checking the level of pre-operative anxiety, giving psychological support, and permitting family to stay with pre-operative patients. These indicate that nurses performed the important caring practices in reducing pre-operative anxiety.

Parsons, Kee, and Gray (1993) reported that caring practices are central to effective and skilled perioperative caring practices to reduce pre-operative anxiety those patients are understandably anxious and fearful. Therefore, surgical nurses' perception met patients' perception of caring practices in reducing pre-operative anxiety.

Even though the differences between caring practices in reducing pre-operative anxiety as perceived by the two groups were not significantly different, mean scores of nurses' perception of caring practices in reducing pre-operative anxiety were remarkably higher than mean scores of patients' perception. Surgical nurses performed daily caring practices in reducing pre-operative anxiety and rated the caring quality in a positive way. However, the caring practices were not entirely perceived by patients. These findings contradicted those of a previous study, by von Essen and Sjoden (1991a), conducted in the oncological and surgical settings in Sweden. Although nurses' mean scores of caring behaviors in a surgical ward were higher than patients' mean scores, there was a significant difference between the two groups on five of six caring subscales of the CARE-Q and in rating of 29 of the instrument's 50 specific behaviors ( $p < .05$ ).

In contrast, in Finland, Leinonen, Leino-Kilpi, Stahberg, and Lertola (2003) found that patients responded to perioperative caring practices in a positive way and had higher scores than registered nurses did ( $p < .001$ ) by using the questionnaires of Good Perioperative Nursing Care Scale. This questionnaire consisted of 12 subscales: physical activities, caring, supportive initiative, staff characteristics, advocacy, respect, encouragement, educational activities, physical environment, preconditions,

social environment, and progress of nursing process. This finding provided important clues that registered nurses served the needs of perioperative patients well.

Table 4-13 shows that two subscales of caring practices in intervention of pre-operative anxiety were significantly different, particularly in interpersonal teaching-learning ( $t=2.09$ ,  $p<.05$ ) and supportive-protective-corrective environment ( $t =3.17$ ,  $p<.01$ ). Nurses in this study perceived the two subscales in reducing pre-operative anxiety with significantly higher scores than did the patients. This indicates that caring practices in both subscales were not entirely perceived by patients. It is reasonable, because concept of interpersonal teaching-learning and supportive-protective-corrective environment is an expected component of nursing care (Parsons, Kee, & Gray, 1993). Interpersonal teaching-learning was ranked as the fourth highest mean score of 3.55 for surgical nurses' perception of caring practices, but at the second lowest mean score of 3.37 for patients' perception. Furthermore, nurses' mean scores of caring actions in interpersonal teaching-learning were considerably higher than patients' mean scores and surgical nurses perceived caring actions of interpersonal teaching-learning in a positive way, contradicting the patients' perception of those negatively. A previous study reported that nurses' perceptions and patients' perceptions of caring behaviors did not match, because professional knowledge was a key indicator of care in nursing. Nurses consciously desired to generate the feelings in their patients of being cared for (Larson, 1986). Interpersonal teaching-learning was an important indicator of caring practices and enhanced the patients' sense of basic worth and competence, because patients needed integration of their physical and mental experiences into an understandable and manageable condition (Cronin & Harrison, 1988b). It is relevant that caring actions in

interpersonal teaching-learning could reduce pre-operative anxiety. Pre-operative teaching should be delivered appropriately and be acceptable by patients. This is similar to other studies that surgical nurses should improve pre-operative teaching, particularly in delivering surgical procedures, possible sensory experience, operating-room environment, and anesthesia (Mitchell, 2000; Mittisorn, 2001; Mordiffi, 2003; Xiuyue, 1999), and alternative therapies for reducing anxiety (Holden-Lund, 1988; Halpin et al., 2002).

The findings of this study show that supportive-protective-corrective environment was significantly different ( $t = 3.17, p < .01$ ). Nurses' mean score of caring actions in supportive-protective-corrective environment (mean=3.76) was considerably higher than patients' mean score (mean=3.47). Surgical nurses' perception of supportive-protective-corrective environment was incongruent with patients' perception of caring practices in reducing pre-operative anxiety. Surgical nurses' perception of caring actions of supportive-protective-corrective environment in a positive way had good quality to very good quality of caring practices except for offering magazine or newspaper to make patients more comfortable. However, patients perceived supportive-protective-corrective environment negatively at poor quality of caring practices, particularly in offering magazine or newspaper to make patients more comfortable, using touch therapy to provide comfort when patients felt anxiety, cheering up patients when they felt anxiety, considering spiritual needs, encouraging patients to do what they could relieve anxiety, and managing a calm and safe environment. Leinonen, Leino-Kilpi, Stahberg, and Lertola (2003) reported that the biggest discrepancy between patients' perception and registered nurses' perceptions of perioperative care was supportive initiative among the subscales of the



Good Perioperative Nursing Care Scale. Supportive-protective-corrective environment was a necessary subscale of pre-operative caring practices and relevant to nurses' responsibilities. Effective caring practices promoted patients to reduce pre-operative anxiety. Nurses must have an awareness of the physical, social, physiological, and spiritual aspects of human-needs (Mullins, 1996) and should be aware of how their actions viewed by patients (Parsons et al., 1993). Preoperative patients perceived pre-operative phase to be a highly stressful and anxiety-creating situation. This study emphasized that supportive-protective-corrective environment enhanced quality of care for pre-operative patients. Some caring actions in supportive-protective-corrective environment should be improved by applying touching therapy (Journeaux, 2002; Kamwicha, 1991), considering patients' spiritual need, offering magazine or newspaper to make pre-operative patients feel comfortable, and managing a calm and safe environment in order to reduce patients' pre-operative anxiety.

In summary, perception of surgical nurses was not significantly different from patients' perception of caring practices in reducing pre-operative anxiety, except for interpersonal teaching-learning and supportive-protective-corrective environment. Further improvements for poor quality of caring practices and maintenance for good quality of caring practices are the expected implications for nursing practice, nursing education, and future research. The results contradicted the findings of previous caring studies, which show a significant difference between the two groups in ranking of caring behaviors. A comparative study in assessing caring practices in reducing pre-operative anxiety by applying Watson's concept (1979) needs to be explored for a longer period.