CHAPTER 4

RESULTS AND DISCUSSION

This chapter presents and discusses the study findings. The results of this study are based on data from 100 surgical patients and 130 surgical nurses. The findings of this study are presented as follows: subject characteristics, patients' information needs in perioperative care as perceived by patients, patients' information needs in perioperative care as perceived by nurses, and the difference of perception between patients and nurses caring for patients regarding patients' information needs in perioperative care.

Results

Subject Characteristics

1. Patients' Characteristics

A total of 100 surgical patients who met the inclusion criteria were recruited. Table1 shows the distribution of cases among three specialties. The greatest number of subjects were from obstetric and gynecology surgery (46%), followed by orthopedic (39%) and general surgery (15%).

Table 2 shows the demographic characteristics of the surgical patients: 73% were females, age ranged from 18 to 70 years (M = 35.64, SD = 11.78), with the majority being young adults (59%), 92% were Muslim, and 60% were married. The average educational level was secondary school and only 11% had attained bachelor's degrees. One quarter (28%) were housewives. Forty percent of subjects were unemployed (2% not working, 10% student, 28% housewife). Only 15% had a monthly income between RM 1501-RM 3000.

Concerning health-related characteristics (Table 3), 61% of patients were having their first surgical experience and 39% had had previous surgical experience. Twenty-three percent were diagnosed with fractures, 21% with ovarian disorders, and 18% had uterine fibroid. The most common type of surgery subjects underwent was laparotomy (42%), followed by open reduction and internal fixation (ORIF) (20%).

2. Nurses' Characteristics

One hundred thirty surgical nurses were recruited from ten surgical wards.

Table 1 shows the distribution of nurses among three specialties. Nurses were distributed about equally among three specialties: three general surgery wards, three orthopedic wards and three obstetric and one gynecology wards.

Table 1

Frequency and percentage of surgical patients (n = 100) and surgical nurses (n = 130).

Ward	Patients		Nurses	
	Frequency	Percentage	Frequency	Percentage
General surgery				
3 Utara	14	14.0	13	10.0
1 Selatan			12	9.2
2 Intan	1	1.0	14	10.8
Orthopedic surgery				
4 Selatan			15	11.5
4 Utara	5	5.0	14	10.8
2 Zamrud	34	34.0	15	11.5
Obstetric and Gynecology surgery				
2 Akik			11	8.5
2 Baiduri			11	8.5
2 Topaz	1	1.0	15	11.5
1 Utara	45	45.0	10	7.7
Total	100	100.0	130	100.0

Table 2

Frequency and percentage of patients' demographic characteristics (n = 100).

Demographic Characteristics	Frequency	Percentage
Gender		
Female	73	73.0
Male	27	27.0
Age (M = 35.64 years, SD = 11.78, *min-max* = 18-70)		
18 to 40	59	59.0
41 to 56	36	36.0
57 to 70	5	5.0
Marital Status		
Single	36	36.0
Married	60	60.0
Widowed	2	2.0
Divorced	2	2.0
Race		
Malay	92	92.0
Chinese	5	5.0
Indian	2	2.0
Others	1	1.0
Religion		
Islam	92	92.0
Christian	1	1.0
Hindu	2	2.0
Buddhism	5	5.0
Level of education		
Primary school	13	13.0
Secondary school	64	64.0
Diploma	12	12.0
Bachelor's Degree	11	11.0

Table 2 (continued).

Demographic Characteristics	Frequency	Percentage
Occupation		
None	2	2.0
Student	10	10.0
Government employee	19	19.0
Private employee	20	20.0
Self-employment	19	19.0
Retired	2	2.0
Others: Housewife	28	28.0
Income per month		
None (None, student, housewife)	40	40.0
< RM 500	18	18.0
RM 501 - RM 1500	27	27.0
RM 1501 - RM 3000	15	15.0

Table 3

Frequency and percentage of health related characteristics of patients (n = 100).

Health-related Characteristics	Frequency	Percentage
Previous surgery		
Yes	39	39.0
No	61	61.0
Types of diagnosis:		
General surgical problems		
Gall bladder disorder	4	4.0
Thyroid disorder	5	5.0
Hernia	2	2.0
Breast cancer	2	2.0

Table 3 (continued).

Health-related Characteristics	Frequency	Percentage
Multiple lipomas	2	2.0
Orthopedic problems		
Fracture	23	23.0
Bone/muscle cancer	4	4.0
Inflammation and infection	10	10.0
PID L4L5	2	2.0
Obstetric and gynecological problems		
Pregnancy with 4 previous c-section scars	1	1.0
Ovarian disorder	21	21.0
Endometriosis	3	3.0
Uterine fibroid	18	18.0
Uterine prolapse	1	1.0
Cervical cancer	2	2.0
Types of surgery		
General surgery		
Laparoscopic cholecystectomy	4	4.0
Mayo's repair	2	2.0
Thyroidectomy	5	5.0
Mastectomy	2	2.0
Excision	2	2.0
Orthopedic surgery		
Amputation	2	2.0
Bone grafting	5	5.0
Discectomy	2	2.0
Open reduction internal fixation	20	20.0
Removal of implant	4	4.0
Wide resection	6	6.0

Table 3 (continued).

Health-related Characteristics	Frequency	Percentage
Obstetric and Gynecology surgery		
Lower Segment Caesarian Section	1	1.0
Laparotomy	42	42.0
Vaginal hysterectomy	1	1.0
Laparoscopic cystectomy	2	2.0

Table 4 shows the demographic characteristics of surgical nurses. All nurses were females. Their ages ranged from 22 to 52 years (M = 34.16, SD = 8.65), with the highest frequency in the young adult group (41.5%). The majority were Malay (91.5%), and Muslim (93%). Most were married (73.8%). Their most frequent educational level was diploma (62.3%) and a few had a bachelor's degree (4.6%). Their surgical experience ranged from one to 26 years. Almost half (45.4%) were junior nurses with one to five years' experience. Furthermore, one third (31.1%) of the surgical nurses had post-basic courses in their specialty area: midwifery (23.8%), critical care nursing (1.5%), intensive care nursing (0.8%), orthopedic nursing (6.2%), and urological nursing (0.8%).

Table 4

Frequency and percentages of nurses' demographic characteristics (n = 130).

Demographic Data	Frequency	Percentage
Gender		
Female	130	100.0
Age (M = 34.16, SD = 8.65, *min-max* = 22-52)		
22 to 30	54	42.5
31 to 40	34	26.2
41 to 52	42	32.3

Table 4 (continued).

Demographic Data	Frequency	Percentage
Marital Status		
Single	32	24.6
Married	96	74.8
Widowed	1	.8
Divorce	1	.8
Race		
Malay	119	92.5
Chinese	7	5.4
Indian	1	.8
Others	3	2.3
Religion		
Islam	121	93.0
Buddhist	8	6.2
Others	1	.8
Level of education		
Basic Nursing	43	33.1
Diploma	81	62.3
Bachelor's Degree	6	4.6
Years of experiences		
(M = 8.14 years, SD = 6.11, min-max = 1-26)		
1-5	59	45.4
6-10	28	21.5
11-15	22	16.9
16-20	17	13.1
21-26	4	3.1
Attended any post-basic course		
No	87	66.9
Yes	43	33.1

Table 4 (continued).

Demographic Data	Frequency	Percentage
Post-basic course		
Critical care nursing	2	1.5
Intensive care nursing	1	.8
Midwifery	31	23.8
Orthopedic nursing	8	6.2
Urological nursing	1	.8

Patients' information needs in perioperative care as perceived by patients

Overall, the total mean scores of patients' information needs in perioperative care were 208.19 (*SD* = 25.59) as perceived by patients. The actual scores ranged from 127 to 250 (Table 5), indicating that patients perceived information about perioperative care at the high level of need. Table 6 shows the level of patients' information needs in perioperative care as perceived by patients. Sixteen percent of surgical patients gave moderate-level scores for patients' information needs in perioperative care, while 84% of surgical patients perceived patients' information needs in perioperative care as being at a high level.

Table 5

Min-max score of possible and actual score, mean, SD, Skewness, Kurtosis of patients' information needs in perioperative care as perceived by patients (n = 100).

PINPC (Possible score)	Actual Score (Min-max)	Mean	*SD*	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
50-250	127-250	208.19	25.59	-.62	.24	.34	.48

Table 6

Frequency and percentage level of patients' information needs in perioperative care as perceived by patients (n = 100).

Level of PINPC	Possible score	Frequency	Percentage
Low	50.00-116.67	0	0
Moderate	116.68-183.34	16	16.0
High	183.35-250.00	84	84.0

1. Preoperative Phase

Table 7 shows the three highest areas of needs of patients' information in the five dimensions, at the preoperative phase. On situational or procedural information, patients perceived highest needs in the estimated time they need to recover from surgery or return to normal fitness (M = 4.67, SD = .57), when they can begin eating after surgery (M = 4.66, SD = .59), and type of surgery they are going to have (M = 4.62, SD = .67).

Table 7

Mean. SD. and the three highest levels of patients' information needs at the preoperative phase as perceived by patients (n = 100).

	Patients' Information Needs at Preoperative Phase	Mean	*SD*
Situational or procedural information			
8	The estimated time you will need to recover from surgery (return to normal fitness).	4.67	.57
20	When you can start eating after surgery.	4.66	.59
2	The type of surgery you are going to have.	4.62	.69
Sensational-discomfort information			
24	The sensation you may feel as a result of preoperative medications (e.g. drowsy).	4.15	.89

Table 6

Frequency and percentage level of patients' information needs in perioperative care as perceived by patients (n = 100).

Level of PINPC	Possible score	Frequency	Percentage
Low	50.00-116.67	0	0
Moderate	116.68-183.34	16	16.0
High	183.35-250.00	84	84.0

1. Preoperative Phase

Table 7 shows the three highest areas of needs of patients' information in the five dimensions, at the preoperative phase. On situational or procedural information, patients perceived highest needs in the estimated time they need to recover from surgery or return to normal fitness (M = 4.67, SD = .57), when they can begin eating after surgery (M = 4.66, SD = .59), and type of surgery they are going to have (M = 4.62, SD = .67).

Table 7

Mean, SD, and the three highest levels of patients' information needs at the preoperative phase as perceived by patients (n = 100).

	Patients' Information Needs at Preoperative Phase	Mean	*SD*
Situational or procedural information			
8	The estimated time you will need to recover from surgery (return to normal fitness).	4.67	.57
20	When you can start eating after surgery.	4.66	.59
2	The type of surgery you are going to have.	4.62	.69
Sensational-discomfort information			
24	The sensation you may feel as a result of preoperative medications (e.g. drowsy).	4.15	.89

Table 7 (continued).

	Patients' Information Needs at Preoperative Phase	Mean	*SD*
26	The sensation you may feel after receiving anesthesia (e.g. hearing noises, dizziness, and not feeling anything after all).	4.07	1.01
23	The feeling of discomfort from tubes, catheters, etc.	4.04	1.08
	Patients' role information		
31	Signing the informed consent only after understanding what is to be done during surgery.	4.74	.49
35	Cooperating with nurses for monitoring your consciousness and vital signs.	4.38	.76
32	How to request assistance whenever needed (e.g. asking for pain medication, getting out of bed).	4.24	.96
	Skills training information		
39	Practicing leg exercises and exercises of the upper and lower extremities after surgery.	4.41	.69
37	Preventing chest complications (e.g. effective coughing, deep breathing exercises).	4.37	.75
36	Coping with stress and anxiety before surgery (e.g. deep breathing, praying, expressing your feelings).	4.13	1.07
	Psychosocial support information		
44	Being reassured that your family members may visit you after surgery.	4.49	.71
45	Being reassured that your family will be informed regarding the progress of surgery.	4.49	.77
43	Being informed where your family members and friends can wait while you are in the operating room.	4.24	.87

On the sensational-discomfort information, patients perceived three highest needs on the sensation they may feel as a result of preoperative medication (M = 4.15, SD = .89), the sensation they may feel after receiving anesthesia (e.g. hearing noises, dizziness, and not feeling anything after all) (M = 4.07, SD = 1.01), and the feeling of discomfort from tubes, catheter, etc (M = 4.04, SD = 1.08).

The three highest needs in patients' role information included signing the informed consent only after understanding what is to be done during surgery (M = 4.74, SD = .49), cooperating with nurses for monitoring patients' consciousness and vital signs (M = 4.38, SD = .76), and how to request assistance whenever needed (M = 4.24, SD = .96).

Patients also perceived needs to have information regarding practicing leg exercises and exercises of the upper and lower extremities after surgery (M = 4.41, SD = .69), preventing chest complications (M = 4.37, SD = .75), and coping with stress and anxiety before surgery (M = 4.13, SD = 1.07). These were the three most important needs for them in skills training information.

Being reassured that their family members can visit them after surgery (M = 4.49, SD = .71), being reassured that their family will be informed regarding the progress of surgery (M = 4.49, SD = .77), and being informed where their family members and friends will wait while they are in the operating room (M = 4.24, SD = .87) were the three highest needs concerning psychosocial support information.

2. Intraoperative Phase

There were four dimensions of information needs in the intraoperative phase. The three highest levels of patients' information needs at the intraoperative phase are shown in Table 8. Regarding situational or procedural information, they rated the three highest needs as the site of the surgical incision they may have (M = 4.59, SD = .59), the general anesthesia that patients may receive (M = 4.48, SD = .84), and duration of the surgery (M = 4.37, SD = .80).

They rated the needs of information related to the sensation-discomfort information including: the sensation they may feel after receiving anesthesia (M = 4.07, SD = 1.01), the feeling of having a facemask to assist them to breathe before and after surgery (M = 3.66, SD = 1.16), and the sensation of discomfort from the tubes in their throat or nose (M = 3.61, SD = 1.31).

Table 8

Mean, SD, and the three highest levels of patients' information needs at the intraoperative phase as perceived by patients (n = 100).

	Patients' Information Needs at Intraoperative Phase	Mean	*SD*
	Situational or procedural information		
16	The site of the surgical incision.	4.59	.59
12	The general anesthesia that you may receive (e.g. procedures of anesthesia, types of anesthetic drug).	4.48	.84
15	Duration of the surgery.	4.37	.80
	Sensational-discomfort information		
26	The sensation you may feel after receiving anesthesia (e.g. hearing noises, dizziness, and not feeling anything after all).	4.07	1.01
21	The feeling of having a facemask to assist you to breathe before and after surgery.	3.66	1.16
30	The sensation of discomfort from the tubes in your throat or nose.	3.61	1.31
	Patients' role information		
35	Cooperating with nurses for monitoring your consciousness and vital signs.	4.38	.76
32	How to request assistance whenever needed (e.g. asking for pain medication, getting out of bed).	4.24	.96
33	The activities you have to do throughout the perioperative period (e.g. making requests about your needs preoperatively, postoperative exercising including deep breathing, range of motion exercises).	4.01	1.13
	Psychosocial support information		
44	Being reassured that your family members can see you after surgery.	4.49	.71
45	Being reassured that your family will be informed regarding the progress of surgery.	4.49	.77

Concerning patients' role information, the three highest needs were cooperating with nurses for monitoring consciousness and vital signs (M = 4.38, SD = .76), how to request assistance whenever needed (M = 4.24, SD = .96), and the activities patients must do throughout the perioperative period (M = 4.01, SD = 1.13).

In addition, there were two items under psychosocial support information, both with equal mean scores. The information was being reassured that their family members can see them after surgery (M = 4.49, SD = .71), and being reassured that their family will be informed regarding the progress of surgery (M = 4.49, SD = .77).

3. Postoperative Phase

There were four dimensions in the postoperative phase. The descriptions are in Table 9. The three highest levels of patients' information needs on situational or procedural information were information on when they can start eating after surgery (M = 4.66, SD = .59), the care they may need after being discharged from the hospital (M = 4.65, SD = .73), and the description of postoperative routine care (M = 4.49, SD = .84).

There was only one item on the sensation-discomfort information - the feeling of discomfort when the tubes, drains, catheters, etc., are removed from the body (M = 4.02, SD = .99).

Furthermore, the three highest information needs on the patients' role information were taking care of their surgical wound (M = 4.71, SD = .57), observing and reporting to nurses if they feel there is something wrong (M = 4.69, SD = .49), and cooperating with nurses for monitoring consciousness and vital signs (M = 4.38, SD = .76).

Table 9

Mean, SD, and the three highest levels of patients' information needs at the postoperative phase as perceived by patients (n = 100).

	Patients' Information Needs at Postoperative Phase	Mean	*SD*
Situational or procedural information			
20	When you can start eating after surgery.	4.66	.59
46	The care you may need after being discharged from hospital (e.g. wound care).	4.65	.73

Table 9 (continued).

	Patients' Information Needs at Postoperative Phase	Mean	*SD*
19	The description of postoperative routine care [e.g. intravenous fluid infusion, wound care (surgical dressing), diet, medication, respiratory treatment, machines, drains, and nature of postoperative nursing assessment (frequent monitoring of vital signs)].	4.49	.84
	Sensation-discomfort information		
48	The feeling of discomfort when the tubes, drains, catheters, etc are removed from your body.	4.02	.99
	Patients' role information		
50	Taking care of your surgical wound (e.g. keeping the wound dry and clean).	4.71	.57
49	Observing and reporting to nurses if you feel there is something wrong (e.g. having fever, pain, swelling, and odor from the wound, etc).	4.69	.49
35	Cooperating with nurses for monitoring consciousness and vital signs.	4.38	.76
	Skills training information		
39	Practicing leg exercises and exercises of the upper and lower extremities after surgery.	4.41	.69
37	Preventing chest complications (e.g. effective coughing, deep breathing exercises).	4.37	.75
38	Turning in bed, getting out of and back into bed when you have a surgical wound.	4.11	1.06

In the skills training information, practicing leg exercises and exercises of the upper and lower extremities after surgery (M = 4.41, SD = .69), preventing chest complications (M = 4.37, SD = .75), and turning in bed, and getting out of and back into bed when you have surgical wound (M = 4.11, SD = 1.06) were the top three needs as perceived by patients.

4. Additional Information

In addition to the types of information needs, patients were asked to specify when they wanted to receive that information. They also were asked to respond to the open-ended question to determine other information they may need that was not included in the questionnaire.

4.1 The time at which patients' information is needed at three perioperative phases

Patients were asked to identify when they want to have that information.

Preoperative Phase

Patients' perceived high levels of need for situational or procedural information at the preoperative phase. Patients wanted to receive most of the preoperative information (items 1-7, 11-13, 15-18) preoperatively. Five information items (8, 9, 10, 14, and 19) were wanted at both the preoperative and postoperative phases. One information item (20) was wanted at the postoperative phase. Regarding sensation-discomfort information, most of the preoperative information (items 21-30) was perceived by patients as being needed at the preoperative phase. On the patients' role information, two preoperative information items (31 and 34) were perceived as being needed preoperatively. One information item (35) was perceived by patients as being needed in all three phases. Items 32 and 33 were wanted at the postoperative phase. On skills training information, two items (36 and 37) were perceived as needed at the preoperative phase. Three items (38, 39 and 40) were wanted at the postoperative phase. Most psychosocial support information (items 41-44) was wanted at the preoperative phase. One item (45) was wanted at the postoperative phase.

Intraoperative Phase

All situational or procedural information (items on 6, 11, 12, 15, 16, 17, and 18) were perceived as being needed at the preoperative phase. On sensation-discomfort information, all information (items 21, 26, 29 and 30) was wanted at the preoperative phase. Concerning patients' role information, two information items (32 and 33) were

wanted at the postoperative phase. One item (35) was wanted at preoperative and postoperative phases. One item (44) of Psychosocial support information, was wanted at the preoperative phase and one item (45) was wanted at the preoperative and postoperative phases.

Postoperative Phase

Three items of sensational or procedural information (20, 46-47) were wanted postoperatively and two items (14, 19) were wanted at preoperative and postoperative phases. Information on sensation-discomfort (item 48) was wanted at the postoperative phase. Patients primarily wanted to be informed about their role (items 32-33, 49-50) postoperatively, and one information item (35) was wanted at both preoperative and postoperative phases. Most of the skills training information (items 38-40) was wanted at the postoperative phase. One information item (37) was wanted preoperatively. The descriptions of the items are shown in Table B9 (Appendix B).

4.2 Results from the open-ended question

Other information determined by patients in the open-ended question was analyzed using simple content analysis. Forty-four percent of the subjects responded to the question. The results were categorized into three groups according to subjects from three specialties: (1) general surgery, (2) orthopedics surgery, and (3) obstetric and gynecology surgery. There were six respondents from general surgery, 19 respondents from orthopedic surgery, and 19 respondents from obstetric and gynecology surgery.

1) The six respondents from general surgery wanted information regarding medication, cost of surgery, personnel involved in surgery, and would like to see the specimens after surgery.

2) Nineteen respondents from orthopedic surgery wanted information regarding the doctor who performed the surgical procedure, the number of staff involved, cost of implant and surgery, planning for physiotherapy, and limitation of activities after surgery.

3) Nineteen respondents from obstetric and gynecology surgery wanted more information regarding postoperative medication, personnel involved in surgery, specimen, postoperative diet, attention from the nurses, and alternative treatment.

In summary, most of the general surgical patients wanted more information including diet after surgery, and specimen. While, orthopedic patients wanted more specific information regarding the type of implant used and cost of the implant. Gynecology patients wanted to know about the specimen and postoperative diet. They also wanted to be

informed about the personnel involved in the surgery. Those who did not respond reported that they did not need further information.

Patients' information needs in perioperative care as perceived by nurses caring for patients

Overall, the total mean scores of patients' information needs in perioperative care as perceived by nurses were 211.31(22.93). The actual scores ranged from 153 to 250, indicating that nurses perceived patients' information needs in perioperative care as being at a high level (Table 10). Table 11 shows the level of patients' information needs in perioperative care as perceived by nurses. Nineteen (14.6%) surgical nurses gave moderate level scores for patients' information needs in perioperative care. On the other hand, 111 (85.4%) surgical nurses perceived patients' information needs in perioperative care as being at a high level.

Table 10

Min-max score of possible and actual scores, mean, SD, Skewness, Kurtosis of patients' information needs in perioperative care as perceived by nurses (n = 130).

PINPC (Possible score)	Actual Score (Min-max)	Mean	*SD*	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
50-250	153-250	211.31	22.93	-.15	.21	-.62	.42

Table 11

Frequency and percentage level of patients' information needs in perioperative care as perceived by nurses (n = 130).

Level of PINPC	Possible score	Frequency	Percentage
Low	50.00-116.67	0	0
Moderate	116.68-183.34	19	14.6
High	183.35-250.00	111	85.4

The three highest needs of patients' information as perceived by surgical nurses at the preoperative, intraoperative, and postoperative phases are shown in Tables 12, 13, and 15.

1. Preoperative Phase

Table 12 shows the three highest areas of needs of patients information in five dimensions, preoperative phase. The three highest needs in situational or procedural information were the type of surgery their patients are going to have (M = 4.93, SD = .26), the date and time of surgery (M = 4.78, SD = .43), and procedures they will perform or ask their patients to do right before surgery (M = 4.70, SD = .51).

Nurses perceived the highest needs involving sensation-discomfort information were the sensation their patients may feel as a result of preoperative medication (M = 4.24, SD = .66), the feeling of discomfort from tubes, catheter, etc. (M = 4.21, SD = .66), and the feeling of pain sensation, nausea, etc (M = 4.18, SD = .76).

Moreover, nurses rated the three highest needs involving patients' role information. This information included signing of the informed consent only after understanding what was to be done during surgery (M = 4.77, SD = .56), cooperating with nurses for monitoring patients' consciousness and vital signs (M = 4.46, SD = .72), and the activities patients must perform throughout the perioperative period (M = 4.45, SD = .65).

Table 12

Means, SD, and the three highest level of patients' information needs at the preoperative phase as perceived by nurses (n = 130).

	Patients' Information Needs at Preoperative Phase	Mean	*SD*
	Situational or procedural information		
2	The type of surgery your patients are going to have.	4.93	.26
1	The date and time of surgery.	4.78	.43
5	Procedures you will perform or ask your patients to do right before they go to the operating room [e.g. giving medications, removing jewelry and dentures, and urinating (empty their bladder)].	4.70	.51
	Sensational-discomfort information		
24	The sensation your patients may feel as a result of preoperative medications (e.g. drowsy).	4.24	.66
23	The feeling of discomfort from tubes, catheter, etc.	4.21	.66
22	The feeling of pain sensation, nausea, etc.	4.18	.76
	Patients' role information		
31	Signing the informed consent only after understanding what is to be done during surgery.	4.77	.56
35	Cooperating with you in monitoring patients' consciousness and vital signs.	4.46	.72
33	The activities patients have to do throughout the perioperative period (e.g. making requests about their needs preoperatively, postoperative exercising including deep breathing, range of motion exercises).	4.45	.65
	Skills training information		
37	Preventing chest complications (e.g. effective coughing, deep breathing exercises).	4.50	.59

Table 12 (continued).

	Patients' Information Needs at Preoperative Phase	Mean	*SD*
39	Practicing leg exercises and a range of motion exercises of the upper and lower extremities after surgery.	4.42	.58
38	Turning in bed, getting out of and back into bed when patient has a surgical wound.	4.40	.64
	Psychosocial support information		
42	Being reassured that it is common to have fear and anxiety about surgery.	4.27	.73
41	Having the nurse listen and answer patients' worries/concerns about surgery	4.20	.77
43	Being informed where your patients' family members and friends can wait while they are in the operating room.	4.17	.68

On the skills training information, nurses perceived the three highest patients' information needs to include preventing chest complications (M = 4.50, SD = .59), practicing leg exercises and range of motion exercises for the upper and lower extremities after surgery (M = 4.42, SD = .58), and turning in bed, getting out of and back into bed when the patient has a surgical wound (M = 4.40, SD = .64). These were considered to be important information needs of patients.

Being reassured that it is common to have fear and anxiety about surgery (M = 4.27, SD = .73), having nurses listen and answer their patients' worries about surgery (M = 4.20, SD = .77), and being informed where their patients' family members and friends can wait while they are in the operating room (M = 4.17, SD = .68) were the three highest patients' needs involving psychosocial support information as rated by nurses.

2. Intraoperative Phase

There were four dimensions of patients' information needs in the intraoperative phase. The three highest levels of patients' information needs at intraoperative phase as perceived by nurses were shown in Table 13. On situational or procedural information, nurses perceived that patients needed information including the site of the surgical incision

(M = 4.38, SD = .79), the general anesthesia that their patients may receive (M = 4.20, SD = .82), and the surgical procedure (M = 4.13, SD = .92).

Table 13

Mean, SD, and the three highest level of patients' information needs at the intraoperative phase as perceived by nurses (n = 130).

	Patients' Information Needs at Intraoperative Phase	Mean	*SD*
	Situational or procedural information		
16	The site of the surgical incision your patients will have.	4.38	.79
12	The general anesthesia that your patients may receive (e.g. procedures of anesthesia, types of anesthetic drug).	4.20	.82
17	The surgical procedure.	4.13	.92
	Sensational-discomfort information		
26	The sensation your patients may feel after receiving anesthesia (e.g. hearing noises, dizziness, and not feeling anything after all).	4.08	.86
21	The feeling of having a facemask to assist your patients to breathe before and after surgery.	4.06	.83
30	The sensation of discomfort from the tubes in your patients' throat or nose.	4.05	.86
	Patients' role information		
35	Cooperating with you for monitoring your patients' consciousness and vital signs.	4.46	.72
33	The activities your patients have to do throughout the perioperative period (e.g. making request about their needs preoperatively, postoperative exercising including deep breathing, range of motion exercises).	4.45	.65
32	The way to request assistance whenever needed (e.g. asking for pain medication, moving out of bed).	4.38	.71

Table 13 (continued).

	Patients' Information Needs at Intraoperative Phase	Mean	*SD*
Psychosocial support information			
44	Being reassured that your patients' family members can see them after surgery.	4.16	.72
45	Being reassured that your patients' family will be informed regarding the progress of surgery.	4.11	.84

On the sensation-discomfort information, nurses rated the three highest needs of information related to the sensation their patients may feel after receiving anesthesia (M = 4.08, SD = .86), the feeling of having a facemask to assist their patients to breathe before and after surgery (M = 4.06, SD = .83), and the sensation of discomfort from tubes in their patients' throat or nose (M = 4.05, SD = .86).

Moreover, the three highest needs on the patients' role information were cooperating with nurses for monitoring their patients consciousness and vital signs (M = 4.46, SD = .72), the activities their patients have to do throughout the perioperative period (M = 4.45, SD = .65), and how to request assistance whenever needed (M = 4.38, SD = .71).

In addition, there were two items under psychosocial support information. Being reassured that their patients' family members can see them after surgery (M = 4.16, SD = .72), and being reassured that their patients' family will be informed regarding the progress of surgery (M = 4.11, SD = .84) were both items rated as being highly needed.

3. Postoperative Phase

There were four dimensions in the postoperative phase (Table 14). The four types of information most needed by patients in the postoperative phase as perceived by nurses were: 1) information on the care their patients may need after being discharged from hospital (M = 4.65. SD = .56), 2) when patients can start eating after surgery (M = 4.42, SD = .59), when the intravenous infusion, drain, cast, dressing, and sutures will be removed (M = 4.28, SD = .72), and pain management including medication and its administration (M = 4.28, SD = .77). The last two items had equal mean scores as being the third highest need.

Table 14

Mean, SD, and the three highest level of patients' information needs at the postoperative phase as perceived by nurses (n = 130).

	Patients' Information Needs at Postoperative phase	Mean	*SD*
	Situational or procedural information		
46	The care your patients may need after being discharged from hospital (e.g. wound care).	4.65	.56
20	When your patients can start eating after surgery.	4.42	.59
47	When the intravenous infusion, drains, cast, dressings, and sutures will be removed.	4.28	.72
14	Pain management including medication and its administration.	4.28	.77
	Sensational-discomfort information		
48	The feeling of discomfort when the tubes, drains, catheters, etc are removed from your patient's body.	4.18	.67
	Patients' role information		
50	Taking care of their surgical wound (e.g. to keep the wound dry and clean).	4.72	.50
49	Observing and reporting to you if your patients feel there is something wrong (e.g. having fever, pain, swelling, and odor from the wound, etc).	4.66	.54
35	Cooperating with you for monitoring your patients' consciousness and vital signs.	4.46	.72
	Skills training information		
37	Preventing chest complications (e.g. effective coughing, deep breathing exercises).	4.50	.59
39	Practicing leg exercises and a range of motion exercises of the upper and lower extremities after surgery.	4.42	.58
38	Turning in bed, getting out of and back into bed when your patients have surgical wounds.	4.40	.64

There was only one item on sensation-discomfort information - the feeling of discomfort when the tubes, drains catheter, etc are removed from the patients' bodies (M = 4.18, SD = .67).

The three highest information needs on the patients' role information were taking care of their surgical wound (M = 4.72, SD = .50), observing and reporting to nurses if their patients feel there is something wrong (M = 4.66, SD = .54), and cooperating with nurses in monitoring patients' consciousness and vital signs (M = 4.46, SD = .72).

On the skills training information, preventing chest complications (M = 4.50, SD = .59), practicing leg exercises and a range of motion exercises of the upper and lower extremities after surgery (M = 4.42, SD = .58), and turning in bed, getting out of and back into bed when their patients have surgical wounds (M = 4.40, SD = .64) were the top three needs as perceived by nurses.

4. Additional Information

In addition to type of information needs, nurses were asked to specify when they wanted to provide that information. They also were asked to respond to the open-ended question to determine what other information they may need that was not included in the questionnaire.

4.1 The time at which patients' information should be provided in the three perioperative phases

Nurses were asked to identify when their patients should receive that information.

Preoperative Phase

Nurses perceived situational or procedural information (items 1-19) should be given to patients at the preoperative phase. They felt one information item (20) should be given at both preoperative and postoperative phases. On sensation-discomfort information, most information (items 21, 24-30) was perceived as being needed by patients at the preoperative phase. Nurses perceived one information item (22) was needed by patients at the postoperative phase. Nurses thought one item (23) should be provided to patients at the preoperative and postoperative phases. Furthermore, nurses perceived patients needed to be informed regarding patients' role information (items 31, 33-35) primarily at the preoperative phase. Nurses perceived one information item (32) was needed by patients at the postoperative phase. Nurses perceived most of the information on skills training (items 38-40) should be provided to their patients at the postoperative phase, although one item

(36) was perceived as being needed preoperatively, and another item (37) was needed at both the preoperative and postoperative phases. On psychosocial support information (items 41-45), they perceived patients needed to be informed at the preoperative phase.

Intraoperative Phase

Nurses perceived patients needed to be provided with situational or procedural information (items 6, 11, 12, 15, 16, 17, and 18) at the preoperative phase. Nurses perceived patients needed all sensation-discomfort (items 21, 26, 29 and 30) at the preoperative phase. On the patients' role information, nurses perceived patients needed one information item (32) preoperatively. Two information items (33, 35) were needed preoperative and postoperative phases. On the psychosocial support information, two items (44, 45) were needed by patients at the preoperative phase.

Postoperative Phase

Two situational or procedural information items (14,19) were perceived by nurses as being needed by patients at the preoperative phase. Nurses perceived one item (20) was needed by their patients at the preoperative and postoperative phases, and two information items (46, 47) were needed postoperatively. Sensation-discomfort information (item 48) was needed at the postoperative phase. Nurses perceived that patients primarily wanted to be informed about their role (items 32, 49-50) postoperatively. Two information items (33, 35) were needed by patients preoperatively. Nurses perceived patients needed most of the information on skills training (items 38-40) at the postoperative phase. One information item (37) was needed by patients at both preoperative and postoperative phases. The descriptions of the items are shown in Table B10 (Appendix B).

4.2 Results from the open-ended question

Other information determined by nurses before discharge from the hospital was analyzed using simple content analysis. Twenty-eight of the subjects responded to the question. The results were arranged into three categories according to subject from three specialties: (1) general surgery, (2) orthopedics surgery, and (3) obstetric and gynecology surgery. There were seven respondents from general surgery, 14 respondents from orthopedic surgery, and seven respondents from obstetric and gynecology surgery.

1) Seven nurses from general surgery responded that their patients wanted more information regarding cost of surgery, postoperative diet, postoperative limitation of activities, counseling, and being introduced to the doctor involved in surgery.

2) Fourteen orthopedic nurses responded that their patients wanted information regarding cost of implant and type of implant being used, prepared pamphlets for pre- and postoperative information, and risks of surgery.

3) Seven nurses from obstetrics and gynecology responded that patients needed more information regarding personnel involved in surgery, diet, introduce to others patients with same surgery, and counseling.

Meanwhile, six nurses stated that the information given to surgical patients was complete.

Overall, surgical nurses perceived patients needed information regarding diet after surgery. Orthopedic nurses perceived that patients needed information regarding types and costs of implants, and limitation in activities after surgery. Obstetric and gynecology nurses perceived that patients needed to know information regarding specimens, postoperative diet, and personnel involved in the surgery.

The differences of perception between patients and nurses caring for patients regarding patients' information needs in perioperative care

Table 15 shows that even though nurses gave higher mean scores (M = 211.31, SD = 22.93) than did patients (M = 208.19, SD = 25.59), the difference in perceptions of patients and nurses on the patients' information needs was not statistically significant (t = -.97, p = .33).

Table 15

Min-max, mean, SD, and t-value of patients' information needs in perioperative care as perceived by patients (n = 100) and nurses (n = 130).

Variable (Possible score)	Patients			Nurses			
	Actual score	Mean	*SD*	Actual score	Mean	*SD*	*t*
PINPC (50-250)	127-250	208.19	25.59	153-250	211.31	22.93	-.97

Table 16 shows the difference between patients' and nurses' perceptions of patients' information needs on five dimensions at the preoperative, intraoperative, and postoperative phases. In the preoperative phase, there were significant differences between patients' and nurses' perceptions of sensation-discomfort information (t = -3.16, p < .01), and patients' role information (t = -2.25, p < .05). Furthermore, there were not significant differences between patients' and nurses' perceptions on situational or discomfort information (t = 1.26, p > .05), skills training information (t = -1.93, p > .05), and psychosocial support information (t = 1.40, p > .05), by which the patients' mean scores were higher than the nurses on situational or procedural information and psychosocial support information.

In the intraoperative phase, there were significant differences on four dimensions of patients' information needs in perioperative care: situational or procedural information (t = 2.13, p < .05), sensation-discomfort information (t = -3.26, p < .01), patients' role information (t = -2.18, p < .05), and psychosocial support information (t = 3.98, p < .01). However, patients' mean scores were higher than nurses' on situational or procedure information, and psychosocial support information.

Table 16

Mean, SD, and t-value of patients' information needs at three phases of perioperative care as perceived by patients (n = 100) and nurses (n = 130).

Patients' information needs (Possible score)	Patients		Nurses		
	Mean	*SD*	Mean	*SD*	*t*
Preoperative phase					
1 Situational or procedural information (20-100)	86.71	9.20	85.12	9.67	1.26
2 Sensation-discomfort information (10-100)	36.30	8.95	39.75	7.10	-3.17**
3 Patients' role information (5-25)	21.10	2.93	22.02	3.20	-2.25*
4 Skills training information (5-25)	20.58	3.90	21.48	2.89	-1.93

Table 16 (continued).

Patients' information needs (Possible score)	Patients		Nurses		
	Mean	*SD*	Mean	*SD*	*t*
5 Psychosocial support information (5-25)	21.14	3.68	20.45	3.70	1.40
Intraoperative phase					
1 Situational or procedural information (7-35)	29.29	4.30	27.98	4.82	2.13*
2 Sensation-discomfort information (4-20)	14.29	4.10	15.88	2.97	-3.26**
3 Patients' role information (3-15)	12.51	2.10	13.12	2.11	-2.18*
4 Psychosocial support information (2-10)	8.94	1.48	8.10	1.68	3.98**
Postoperative phase					
1 Situational or procedural information (5-25)	22.59	2.54	21.88	2.47	2.14*
2 Sensation-discomfort information (1-5)	4.02	.99	4.18	.67	-1.41
3 Patients' role information (5-25)	21.91	2.60	22.50	2.68	-1.68
4 Skills training information (4-20)	16.53	3.12	17.09	2.4	-1.53

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

In the postoperative phase, there were significant differences on the situational or procedural information (t = 2.14, p < .05), and non-significant differences on the sensation-discomfort information (t = -1.41, p > .05), patients' role information (t = -1.68, p > .05), and skills training information (t = -1.53, p > .05). The patients' mean scores were higher than the nurses' on the situational or procedure information, whereas for the rest the patients' mean scores were lower than the nurses'.

Discussions

This study aimed to identify the differences between patients' and nurses' perceptions of patients' information needs in perioperative care. One hundred surgical patients and 130 surgical nurses participated in this study. They were purposively recruited from ten surgical wards at the largest referral hospital on the East Coast of Peninsular Malaysia. The findings are discussed as follows: 1) Patients' information needs in perioperative care as perceived by patients and nurses, and 2) The difference in perceptions of patients and nurses caring for patients regarding patients' information needs in perioperative care.

Patients' information needs in perioperative care as perceived by patients and nurses

The findings show that patients and nurses perceived overall patients' information needs in perioperative care at the high level of needs (M = 208.19, SD = 25.59; M = 211.31, SD = 22.93, respectively) as shown in Table 15. They also perceived high level of needs on the five dimensions in all three phases of perioperative care. This indicated that all this information is very important to patients. However, they rated the needs for information differently in some dimensions.

1. Preoperative Phase

In the preoperative phase, patients gave highest ratings to 1) situational or procedural information, followed by 2) patients' role information, 3) psychosocial support information, 4) skills training information, and 5) sensation-discomfort information, whereas nurses gave highest ratings to 1) situational or procedural information, followed by 2) patients' role information, 3) skills training information, 4) psychosocial support information, and 5) sensation-discomfort information. In this phase, patients and nurses similarly rated patients' information needs on the first two dimensions: situational or procedural information, and patients' role information.

During the preoperative phase, it is more likely that patients will feel anxious and stressful on hearing about the need for surgery. At this time they do not think of what will happen to them after surgery, and they need clear information from nurses and other health care providers regarding surgery. With this information, they can get a clear picture of what will happen to them, and they can thus perform their role more effectively. These findings are consistent with Caldwell (1991a) in her review of the surgical outpatients' concerns. She found that patients would like to know in detail about what will happen to them during surgery. Information regarding surgery was the information most wanted by patients in this phase. Radcliffe (1993) mentioned that many patients suffer from anxiety when facing with surgery. Patients need information to prepare them before facing the real situation. Therefore, nurses role to provide the information for the patients before surgery. Information and teaching will help patients cope with their stress and anxiety.

A role of the surgical nurse is to explain perioperative information to the patients clearly, ensuring the patient understands the situation. Nurses are also responsible to make sure that patients receive clear information from their respective doctors, although in reality nurses think that giving information about surgery is the responsibility of the doctor, not the nurses. Patients should receive information from the doctor. The nurses' role is to convey preoperative instructions to the patient. The doctor obtains the informed consent from patients, so it is the doctors' job to explain the need for the procedure, describe the procedure to be performed, its risks and benefits, explain alternative treatments available to the patients, and answer any patient questions. Then the doctor asks the patient to sign the consent form. In this study, the findings of nurses' perceptions of patients' information needs in the preoperative phase were consistent with a previous study conducted by Bernier, Sanares, Owen, and Newhouse (2003). The nurses gave highest ratings to the need for situational or procedural information and patients' role information. This also shows that nurses are sensitive to patients' needs at this phase.

However, patients and nurses scored the other three dimensions differently. Patients gave highest ratings to psychosocial support information, followed by sensation-discomfort information, whereas nurses gave highest ratings to skills training information and psychosocial support information. These results show that patients focused on psychosocial support as the third highest need, while nurses focused on skills training information. Patients need support from nurses and families before they go for surgery. Patients usually feel anxious and fear upcoming surgery so they need family support at this time. Surgical

procedures affect the well-being not only of the patient, but also of family members. Both patients and family members are likely to experience stress during surgical procedures (Astedt-Kurki, Paunonen, & Lehti, 1997). Patients may also experience anxiety and fear about separation from their family members. Fear may be manifested as physical symptoms, such as circulatory changes, palpitations, and nausea (Gilmartin, 2004). Adequate information may reduce patients' and family members' stress and anxiety. This can help family members have realistic expectations and provide support during recovery. Family members are then more actively involved and express fewer negative feelings about the experience. Nurses play a significant role in respecting family members' needs and providing information and support (Leinonen, Leino-Kilpi, Stahlberg, & Lertola 2001).

On the other hand, nurses focused on skills training as being the third high level of needs. Nurses wanted patients to learn and practice exercises to prevent postoperative complications. Nurses perceived that patients should be prepared so that they can perform these skills during the postoperative phase. Lithner and Zilling (2000) state that information is vital in nursing surgical patients. Without information the patients are unable to take an active part in postoperative care. For instance, if they do not know the importance of postoperative mobilization, they will remain passive and have increased rates of postoperative complications. Furthermore, nurses are more concerned about the patients' safety, and preventing postoperative complications. Nurses have a professional responsibility to their patients to provide a good standard of nursing care by giving appropriate information and education to each patient according to need, and to intervene appropriately and promptly to prevent complications (Nursing Board Malaysia, 1998).

Concerning the timing of providing information to patients, the results revealed that patients wanted this information at the preoperative and postoperative phases as in Table B9 (Appendix B). Nurses perceived patients needed this information only at the preoperative phase as in Table B10 (Appendix B). An important role of nurses is to provide patients with information. They wanted their patients to receive the information before surgery. During this phase, surgical patients normally feel anxiety and fear about surgery, and they may forget the information given to them. This again is consistent with Lithner and Zilling (2000), who also found that patients want substantial information both at admission and at discharge. Patients considered receiving information before and after surgery as being equally important.

In summary, both patients and nurses viewed situational or procedural information and patients' role information as being very important in the preoperative phase. This indicates that patients wanted a clear information regarding surgery. Nurses are responsible for ensuring patients receive detailed information from the doctors about surgical procedures. With this information, the patient can understand clearly and perform their role effectively at this phase. Patients felt psychosocial support was the third most important type of information they needed before surgery. This indicates the importance of the nurse's role in communicating information about surgical procedural to patients and family members.

2. Intraoperative Phase

Patients gave high scores to their need for 1) situational or procedural information, followed by 2) psychosocial support information, 3) patients' role information and 4) sensation-discomfort information. Meanwhile, nurses gave high scores to patients' need for 1) patients' role information, followed by 2) situational or procedural information, 3) psychosocial support information, and 4) sensation-discomfort information. This indicated that patients and nurses perceived the importance of patients' information needs differently in this phase.

Information regarding surgery and anesthesia is important for patients to know. In this phase, patients are undergoing surgery. They are normally being anesthetized, and unconscious during the surgery. This makes them more anxious to know what will happen to them, which is consistent with a previous study conducted by Caldwell (1991a), who found that all patients wanted to know information regarding the process of surgery, including the surgical procedures and the effect of anesthesia. They were not aware what would happen to them at that time.

Patients also had awareness of surgical procedures associated with removal and alteration of body parts. Patients usually fear losing body function. This is supported by Hankela and Kiikkala (1996) who studied the expectations and experiences related to intraoperative nursing care of patients undergoing hip replacement procedures. Patients felt insecure about the changes in their body image during the surgical procedure. Patients and nurses had different perception about this information, indicating that nurses focus on this aspect to help patients fulfill their needs regarding anesthesia and surgery.

Interestingly, examination of mean scores showed that patients assigned the second place of importance to the need for psychosocial support information, but nurses assigned

this need to the third level of importance. Patients highly rated receiving information and reassurance that their family members can see them after surgery, as well as family members being informed regarding the progress of surgery. In actual practice, patients are going into the operating room alone, without family members accompanying them. Families normally wait outside the operation room and they do not receive any information from the surgical staff (Patients family members, personal communication, April 30, 2005). Paavilainen, Seppanen, and Asted-Kurki (2001) studied family involvement in perioperative nursing of adult patients. They found that ascertaining the family situation and informing the family members was not carried out systematically in the preoperative and intraoperative phases. Patients would like their family to be informed on the progress of surgery and want to meet their families as soon as the surgery is over and they are moved out of the operating room. They wanted family members to be present to support them. Earlier research has shown that unique characteristics of patients and their families are of central importance in perioperative care. Families have needs for support and information when one of their members is in the hospital (Paavilainen & Astedt-Kurki, 1997; Zazpe, Margell, & Otano, 1997).

Surprisingly, patients wanted to be informed regarding situational or procedural information at the preoperative phase. Regarding psychosocial support information, patients wanted to receive it at the preoperative and postoperative phases as in Table B9 (Appendix B). Nurses perceived patients needed information regarding psychosocial support at the preoperative, intraoperative, and postoperative phases as in Table B10 (Appendix B).

In summary, patients and nurses perceived patients' information needs differently at the intraoperative phase. Patients wanted information regarding surgical procedures and psychosocial support from health care providers. They wanted to be informed continuously about surgery and related experiences throughout the entire perioperative period. Patients also wanted nurses to support their families by informing them about the progress of surgery and reassuring that family members would be waiting outside the operating room, and assuring that they would meet their family members immediately following a surgery.

3. Postoperative phase

After surgery, patients and nurses rated the patient's need for information similarly. They gave highest ratings to the need for patients' role information, and situational or procedural information.

Having a surgical wound is a painful and frightening experience for surgical patients. This is a major situation that all surgical patients will think about at the postoperative phase. Information can help patients go through the new experience more effectively. As patients, they need information to perform their role in managing their wound. Knowing the signs and symptoms of infections may help them monitor the wound and report to the nurses if there is something wrong with the wound. These findings are consistent with Henderson and Chien (2004) who studied Chinese surgical patients' information needs, finding that patients gave high ratings to the need for information about signs and symptoms indicating postoperative complications.

Nurses perceived patients need information about wound care before being discharged. With the recent new trend towards early discharge, many patients are discharged earlier than they expected. This makes them uncertain about how to care for the wound at home. These findings are consistent with Jacobs (2000), who studied the informational needs of surgical patients following discharge. A decreased length of hospital stay for surgical patients dramatically reduces the time available for nurses to teach patients how to manage post-discharge self-care. She also found that patients believed information related to wound care and complications to be highly important.

Patients and nurses also gave highest ratings to the need for skills training information. This indicate that nurses perceived patients know how to perform tasks such as effective coughing, leg exercises, range of motion exercises of the upper and lower extremities, turning in bed, and getting out of and back into bed postoperatively. Nurses perceived it was the nurses' responsibility to teach patients how to prevent postoperative complications.

Regarding the time at which information should be given, patients wanted to be informed about patients' role information and situational or procedural information at the postoperative phase. Fifty-three percent to 66% of patients perceived they wanted this information at the postoperative phase as in Table B9 (Appendix B). Seventy one to 73% of nurses perceived their patients needed this information postoperatively as in Table B10 (Appendix B).

In summary, both patients and nurses perceived high level of needs in all five dimensions at three phases of perioperative care. However, they gave highest ratings to patient needs differently in certain dimensions at some phases of perioperative care. In the preoperative phase, nurses are sensitive to patients' needs for situational or procedural

information and patients' role information. Patients and nurses perceived patient information needs similarly in the preoperative phase. In the intraoperative phase, patients and nurses perceived patients' information needs differently. Patients focused on situational or procedural information, psychosocial support information and patients' role information as being most important, but nurses focused differently. In the postoperative phase, patients focused on their roles in wound management, monitoring for signs of infection, and discharge information. They wanted information on how to manage and recognize the signs of infection in this phase. This will help them to have realistic expectations and help speed recovery.

The differences of perceptions between patients and nurses caring for patients regarding patients' information needs in perioperative care

Overall, there was no significant difference between patients' perceptions and nurses' perceptions of patients' information needs when compared within the three phases of perioperative care. In general, patients and nurses placed great emphasis on patients' needs for information throughout perioperative care. This could be because the majority of the subjects in this study were female. Seventy three percent of the surgical patients and 100% of the surgical nurses were female. Moreover, most of the subjects from both groups were young adults. Most patients (60%) and nurses (74%) were married, and the education of both groups was at the secondary school, although nurses had diplomas, their basic level of education was secondary school. This could have contributed to similarities in patients' and nurses' perceptions about patients' information needs. Most of the subjects had similar demographic backgrounds. Thompson, Pitts, and Schwankovsky (1993) support that individual variables such as age and educational level have a substantial impact on desire to seek health information. Oermann, Harris, and Dammeyer (2001) also found that patients who were similar in marital status had similar perceptions about the importance of teaching by nurses.

Surgery is a stressful and life-threatening event for surgical patients. Many patients are frightened and suffer from having surgery. Furthermore, patients who never had surgery before can not get a clear picture of what to expect during perioperative care. This is consistent with Bernier, Sanares, Owen, and Newhouse (2003), who found that need for information specific to the surgical situation might be valued most highly by people who lack previous experience of surgery. In this study, more than half (61%) of the surgical

patients were having their first surgical experiences. As a result, they needed information in advance to help them cope with the surgical experience and they perceived high levels of need throughout perioperative care.

Nurses also gave highest ratings to the need for providing patient information before surgery. They perceived patients should receive detailed and clear information to prepare themselves for the surgical experience. Nurses support and reinforce information, which patients should have received from their referring physician (Thompson, Melby, Parahoo, Ridley, & Humphreys, 2003). It is the nurses' role to fill in the gaps in patient knowledge and expectations about what is going to happen before, during, and after surgery, and to allay any fears the patient may have. This is why nurses gave high ratings on patients' information needs throughout perioperative care.

However, the present study found that patients and nurses perceived patients' information needs in some dimensions differently. In the preoperative phase, there were significant difference between patients' and nurses' perception regarding sensation-discomfort information ($t = -3.17$, $p < .01$), and patients' role information ($t = -2.25$, $p < .05$) (Table 16). Moreover, nurses scored these two dimensions higher than did the patients. These indicate that nurses perceived these two dimensions were very important. A role of surgical nurses is to provide information so patients will understand what will happen to them before and after surgery. Patients will than understand surgical procedures and perform their role more effectively during perioperative care. This is supported by Doering, McGuire, and Rourke (2002) in their qualitative study of postoperative cardiac patients. Patients wanted a clear picture about the surgery and surgical experience they had undergone. This information helps patients participate in and manage their own recovery, and will encourage patients to be more actively involved in their care and treatment. They should receive the right amount and type of information. Therefore, nurses rated patients' information needs for sensation-discomfort information, and patients' role information higher than did patients. For patients, these two dimensions are important to them to know, however, patients perceived a higher need for this information postoperatively. They experience pain and discomfort from the infusion and drainage tube only after the operation. Patients also perceived they should actively perform their role at the postoperative phase.

In the intraoperative phase, there were significant differences in all four dimensions regarding situational or procedural information ($t = 2.13$, $p < .05$), sensation-discomfort information ($t = -3.26$, $p < .01$), patients' role information ($t = -2.18$, $p < .05$), and

psychosocial support information (t = 3.98, p < .01). Patients perceived greater need for situational or procedural information, and psychosocial support information, but nurses perceived greater need for sensation-discomfort information, and patients' role information. This indicates that patients and nurses focused on patients' information needs differently.

In the intraoperative phase, patients are more concerned about the surgical procedure and anesthesia. They want to know what will happen to them after being given anesthesia and the effect of the anesthesia. Almost all patients were afraid that they might die from an overdose of anesthesia. Patients usually relate anesthesia to falling asleep, and most patients are scared that they will never wake up after surgery (Klafta & Roizen, 1996).

Patients want to know what happen to them during surgery - where the surgeon will make the incision and how long the surgery will last. Surgery is seen as life-threatening by most patients. They are afraid and anxious about surgery. Patients need support form the nurses and family during this phase. They want nurses to listen and reassure them about surgery, inform the family members about the progress of surgery, and be reassured that their family members can see them after surgery. In this study, females (73%) represented the highest number. This is why the surgical patients scored psychosocial support information higher in this phase. This is consistent with a previous study which found that females are more expressive about their psychosocial needs than are men at the time of surgery (Bernier, Sanares, Owen, & Newhouse, 2003). They desire more information for themselves when facing surgery.

Interestingly, patients also rated psychosocial support information as a greater need than did nurses in the preoperative and intraoperative phases. This is also supported by Yount and Schoessler (1991) in their study of patients' and nurses' perceptions of preoperative teaching. They also found that patients highly rated the need for psychosocial support. These findings may be related to the large number of patients under going gynecology surgical procedures (n = 45). This surgery may be associated with altered body function; as a result patients may seek or prefer to receive more psychological support from the nursing staff. In this study 40% of patients underwent gynecology surgery. This may influenced the finding that they rated psychosocial support information needs higher in the intraoperative phase. This may reflect patients' awareness that this information will help them through their surgical procedure, as it prepares them for postoperative recovery.

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In the intraoperative phase, patients are more concerned about the surgical procedure and anesthesia. They want to know what will happen to them after being given anesthesia and the effect of the anesthesia. Almost all patients were afraid that they might die from an overdose of anesthesia. Patients usually relate anesthesia to falling asleep, and most patients are scared that they will never wake up after surgery (Klafta & Roizen, 1996).

Patients want to know what happen to them during surgery - where the surgeon will make the incision and how long the surgery will last. Surgery is seen as life-threatening by most patients. They are afraid and anxious about surgery. Patients need support form the nurses and family during this phase. They want nurses to listen and reassure them about surgery, inform the family members about the progress of surgery, and be reassured that their family members can see them after surgery. In this study, females (73%) represented the highest number. This is why the surgical patients scored psychosocial support information higher in this phase. This is consistent with a previous study which found that females are more expressive about their psychosocial needs than are men at the time of surgery (Bernier, Sanares, Owen, & Newhouse, 2003). They desire more information for themselves when facing surgery.

Interestingly, patients also rated psychosocial support information as a greater need than did nurses in the preoperative and intraoperative phases. This is also supported by Yount and Schoessler (1991) in their study of patients' and nurses' perceptions of preoperative teaching. They also found that patients highly rated the need for psychosocial support. These findings may be related to the large number of patients under going gynecology surgical procedures (n = 45). This surgery may be associated with altered body function; as a result patients may seek or prefer to receive more psychological support from the nursing staff. In this study 40% of patients underwent gynecology surgery. This may influenced the finding that they rated psychosocial support information needs higher in the intraoperative phase. This may reflect patients' awareness that this information will help them through their surgical procedure, as it prepares them for postoperative recovery.

Furthermore, from the time patients arrive in the operating room through the administration of anesthesia, the nurses' attention focuses on psychological as well as physiological reactions of the patients. Priority is given to the patients' safety and psychosocial needs. They need the security of knowing that someone is protecting their best interests at this time, especially when under anesthesia and unable to make decisions for themselves (Smeltzer & Bare, 1992). The nurse's role is to assess patients' needs and the family's situation, the effect of the surgical procedure on the family and significant others' capacity to support the patients; communicate with family members; and appreciate family members' active participation in the patient's care (Majasaari, Sarajarvi, Koskinen, Autere, & Paavilainen, 2005). Family participation in care will help patients have a more positive surgical experience. This is why nurses focused on psychosocial support information at the intraoperative phase.

On the other hand, nurses gave higher scores in the sensation-discomfort and patients' role information at the intraoperative phase. Nurses wanted patients to know how they will feel after receiving anesthesia and getting endotracheal tubes inserted. With regard to daily practice, anesthetists visited their patients in the ward a day before surgery. Anesthetists perform assessments and provide information about the anesthesia procedure and the sensation after getting anesthesia to the patients. The anesthetist never tells the patients about the tracheal intubations in detail. This could be because anesthetists think that when those patients are sedated, patients have no sensations during the intubation procedure. After surgery, most patients complained of sore throat and stated they were not informed about intubation (Gynecology patients, personal communication, April 30, 2005).

Nurses also gave highest rating to patients' role information, but patients rated this as a third highest need in the intraoperative phase. The nurse's role is to perform tasks such as monitoring the patient's condition, giving medications, and teaching patients how to do postoperative exercises. They want patients to know their role so they can perform effectively. Therefore, nurses gave highest rating to patients' need for sensation-discomfort information and patients' role information in the intraoperative phase.

In the postoperative phase, there was a significant difference in ratings of nurses and patients regarding the need for situational or procedural information ($t = 2.14$, $p < .05$). Patients scored this higher than did the nurses. This indicates that the situational or procedural information is very important information for patients. After surgery, patients

feel safe and they focus on how to get back to normal. Therefore, patients pay more attention to when they can start eating, self-care and wound care so that they could recover faster. Lonsdale and Hutchison (1991) found that patients placed high priority on information about eating and drinking. They wanted a clear timetable to recovery from surgery. Doering, McGuire, and Rourke (2002) also found that patients wanted specific information about what they had to do as part of their recovery, both in the hospital and at home. Nurses need to give information related to situations and procedures to promote speedier recovery and earlier discharge.

In summary, patients and nurses generally perceived patients' information needs in perioperative care similarly. This indicates that giving information during perioperative care to patients is very important. Nurses need to provide information regarding surgical procedures throughout the three phases of perioperative care. Although patients and nurses gave high scores in each dimension at three phases, their ratings differed significantly in some dimensions. The nurse's role is to emphasis this information so patients will get appropriate information according to their needs at each phase. In the preoperative phase, nurses need to emphasize sensational-discomfort and patients' role information. Nurses need to conduct the assessment and provide information according to patients' perceptions of patients' needs. This would be more effective than focusing only on the nurses' perceptions. In the intraoperative phase, patients and nurses perceived needs differently in all four dimensions. Nurses ensure patients receive clear information from the doctor. This information can allay patients' fear and anxiety about surgery and anesthesia. Patients also need support from nurses and family members. Providing reassurance and communicating with family members may help patients have a more positive surgical experience and enhance recovery. In the postoperative phase nurses need to ensure patients have a complete understanding about postoperative self-care by providing clear information. Moreover, preparing patients and family members with skills and information for discharge will help patients and families to better manage self-care independently at home.

To conclude, nurses need to give specific information related to patients' needs at each phase, allowing patients to use this information to cope with stress and plan for care themselves. This will help patients go through the surgical experience more positively, as well as encouraging them to better cope with the surgical experience and recover faster.