CHAPTER IV

DATA EXERCISE

4.1 Introduction

The objectives of the data exercise (i.e. data collection and analysis) in this research study were to test the instrument employed in participatory action research and then to use the test outcome to improve the data collection method and data analysis to be appropriate and corresponding with the current situation in quality development of preoperative nursing care of Phanat Nikhom Hospital, Chon Buri province.

4.2 Objectives of the Data Exercise

4.2.1 To develop appropriate instrument for PAR.

4.2.2 To create a sense of preoperative quality improvement among the co-researchers. The co-researchers build and maintain their partnership.

4.2.3 To identify the service delivery of the operating room, Phanat Nikhom hospital.

4.2.4 To identify the vision, mission, value, purpose statement, quality point, need of customers, and the scope of care.

4.2.5 To identify the problems of preoperative nursing care, causes, and effects in the operating room, actually perceived and encountered by the participants

4.2.6 To plan and develop an intervention method to solve the quality of preoperative nursing care related problems.

4.3 Methodology

The research design proposal for this study participatory action research. The data collection methods used in this study included both brainstorming and focus group discussion. The target population consisted of the heads of the operating room and anesthesia department, 3 anesthetist nurses and 5 preoperative nurses. They were selected by purposive sampling. The study area was the operating room at Phanat Nikhom hospital, Phanat Nikhom district, Chonburi province.

4.4 Instruments

The instruments used in this study were focus group discussion question guidelines, in-dept interview with opinion 's patient, participatory observation and direct observation forms.

4.5 Data Collection and Data Management.

The data collection was carried out by the researcher. The question guidelines of were Focus group discussion adapted from the handbook of learning guidelines for quality development, 2001 quality development program by the Hospital Accreditation Thailand. The validity of the question guidelines was tested for content analysis in 6 preoperative nurses from another hospital. The questionnaire was checked, mistake-eliminated and was used after testing. The data were collected simultaneously by audio taping and taking notes. The research team typically conducted content analysis of documents, summarized data, coded them by identifying idea clusters, and generated a list of key themes. These are 4 steps of data collection.

Step 1: Data collection about the perceived or experienced service and customer needed with in-dept interviews will be needed to identify the expectation and perception of surgical patients toward the perioperative nursing services. The researcher collected secondary data on October 1, 2000 – September 30, 2001.

Step 2: Participants focus groups discussion should be to identify the vision, mission, value, purpose statement, quality point, need of customers, and the scope of care, the service delivery of the operating room, Phanat Nikhom hospital on April 21–22, 2001.

Step 3: Participants focused groups discussion should be to get their views, perception and experiences on the problems in perioperative nursing care. To make

them realize that their participation is very essential for the success of the study. The participants have to understand the cause and effects of a lack of quality which is intend to be used for analyzing the sources of quality problems and for helping participants to understand how service quality can be improved. Moreover addressing these problem are logical basis formulating strategies and tactics to ensure consistent expectations and experience, thus increasing the likely of satisfaction and positive quality. This is called the problem identification. The objective of this step : to identify the problem as a frist priority in the perioperative care in the operating room which is desired by the participants involved in the problem.

Participants need to have sufficient information from the step 3 in order to understand the problems. In the conclusion of the problem, focus must be carefully defined, which especially aims for improving quality of preoperative nursing care. This step was carried out during 10-11 May 2001.

After the problem identification is known by the participants the step 4 of planning and develop the intervention method can then be used to analyze problems in more details.

Step 4: Planning

At this step, the participants are able to identify the intervention to improve the preoperative nursing quality related to the problem, on July 21st – 22nd , 2001. Then the step 5 of the action can be applied to the problems as described below.

Step 5 : Action and Observation

The last step will allow the participants to summarize the above finding in order to create the most effective strategic planning and then apply the strategy to solve the problems. It is important to summarize whether the local experience within the preoperative nursing care is successful. Then repeat all procedure again by starting form the step 4.

4.6 Data Analysis

The data from focus group discussion, various data records, participatory observation, and from direct observation were obtained from the actual circumstances in order to develop understanding, ideas, functional behaviors of the participants, as well as the action plan for quality improvement of preoperative nursing care. The author had conducted data analysis in order to understand the situation as in the following steps:

1. Analysis of primary data in order to determine the responsibilities or goals/ objectives of the operative care services, quality points, main procedure of the services and related problems in the opinions of the operating room nurses; in conjunction with analysis of the data from the 2000 report on the operating room's quality improvement operation and the 2000 report on incidence records according to the operating room quality measurement criteria. The data were categorized in order to understand the studied

situations. There was also crosscheck of the data with the ideas of nursing quality improvement and assurance.

2. Data analysis: The author conducted content analysis by collecting data from focus group discussion and the data were classified into different operative nursing care problems; from group discussion and the data were processed and presented in the form of Cause-Effect Diagram, which outlined the relationship between problems of lacking of quality in preoperative nursing care services, their casual factors, and effects; and from transcribing the group conversation and discussion from the audio-tape records about setting up the action plan. The data were classified into minor groups with similar characteristics, analyzed, and connected relationship of each group of data by assessment to give clear understanding. Data noting, recording of the group conversation, data categorization and classification, and data analysis would occur in every step of the research cycle.

4.7 Results

4.7.1 Demographic data

The study group contained a total of 10 female nurses from the operative nursing team. The mean age of the participants in this study was 41 years. The mean experiences of nursing care was 10 years. The majority of the co-researchers were the head of operative nursing department, the head of anesthesia department, and operating nurses. The most of participants were in 7 position levels (80 %) and 20 % were in 6 position levels.

4.7.2 Result of data collection about the perceived or experienced service and customer needed with in-dept interviews will be needed to identify the expectation and perception of surgical patients toward the perioperative nursing services.

Finding:

Part I General data

There were 53 surgical patients as respondents. Most of surgical patients were 40 % caesarean section, 38 % tubal resection, 15 % total abdominal hysterectomy, and 7% appendectomy.

Part II Information about expectation toward preoperative nursing care of surgical patient in the operating room, Phanat Nikhom Hospital.

Finding:

44 out of 53 respondents needed information about self care practice, medical fees, the name of the person providing services, operation period, and abnormal symptoms that required further medical examination. 10 out of 53 respondents fear and anxiety about operation, use of nervous suppressors before the operation as the following examples:

The patient "*Can I ask you if the operation is expensive? I do not have money.*"

The patient "*Doctor (the word "doctor" herein represents an operating room nurse, commonly used by patients), will I recover after sniffing the drug?* ***I am afraid of forever sleep.***"

4.7.3 Result of data collection about focus groups discussion should be to identify the vision, mission, value, purpose statement, quality point, need of customers, the scope of care, and the service delivery of the operating room, Phanat Nikhom hospital.

Findings:

Unit profile

The unit profiles comprised of vision, purpose statement, a scope of care services, processes and principles of operative patient care, and quality points of the operation unit of Phanat Nikhom hospital, Chonburi province, as summarized in the followings:

Vision

Standard and outstanding operating room and personnel, providing impressive services for people of all levels, advanced and modern technologies, and focusing on safety of customers.

Mission

Aiming to provide combined, holistic, and continuous healthcare services with excellent service behavior standards, effective operation management, and complete

service network. There are public participation and continuous development within clean and nice environment.

Purpose of statement

Operating and anesthesia service department aims to be a special sector that provides quality operating and nervous suppression services under professional standard and moral values with continuous development of its personnel.

Value

1. Aiming to provide services with customer-focus by quality personnel team.
2. Providing best services to all customers is our responsibility.
3. Adhering to moral and ethnical values.
4. All people are important and equal in opportunity.
5. Emphasizing on teamwork.
6. All people are responsible for their duties and society.

Quality points

Operative patients are ensured with safety throughout all steps of operation, including no post-operative complication. Patients receive complete and accurate information and advice and equality in treatment services with convenience and reasonable cost. Services are given according to professional standards at rapid speed and with expertise of operating teams.

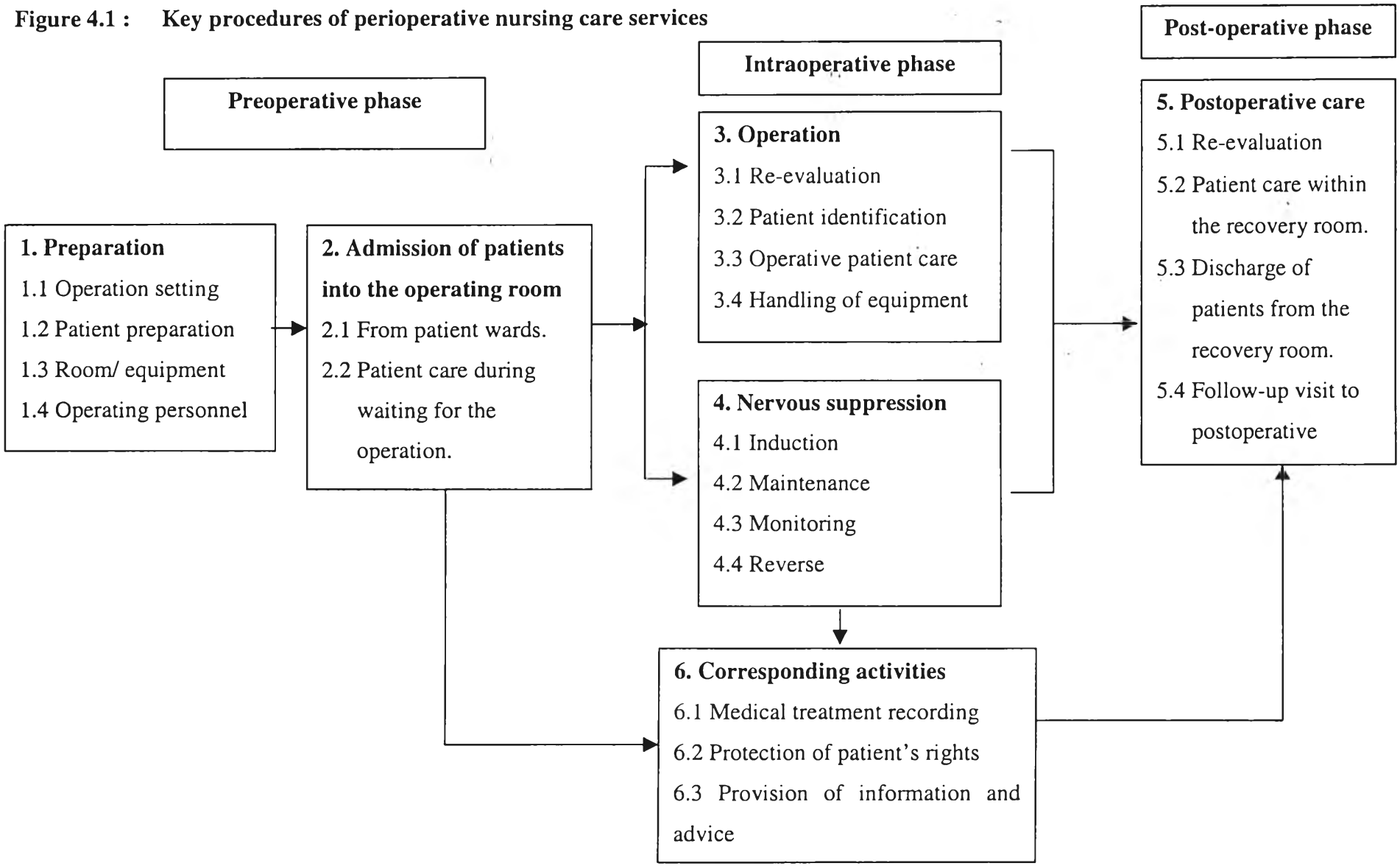
Scope of care

Providing general operating and surgical services, orthopedic surgery, obstetrics and gynecology, and general and local anesthesia services.

Key procedures of perioperative nursing care services

Key procedures of perioperative nursing care sevices are as shown in the following figure 4.1

Figure 4.1 : Key procedures of perioperative nursing care services



4.7.4 Result of data collection about focused groups discussion should be to get their views, perception and experiences on the problems in perioperative nursing care Problem conditions, development opportunities, and potential risks of the overall preoperative services obtained from brainstorming session are summarized in the followings:

Preoperative phase

1. A lack of standard procedure for patient care practice.
    1.1 Patient care during waiting time for the operation.
    1.2 Preparation of patients and evaluation of physical, mental, emotional, and document readiness.
    1.3 Admission of operative patients.
    1.4 Transferring of operative patients.
    1.5 Operation setting.
    1.6 Keeping and storage of patients' valuable belongings.
    1.7 Preparation for patient aid during critical and emergency situations.
    1.8 Skin bleaching before the operation.
2. Coordination within the operation team, which comprised of a surgeon,operating nurses, and anesthetist nurses.
    2.1 Lacking of co-participation in planning and evaluation process among the operating team.
    2.2 There were no personnel clearly responsible for prioritization of operating order.

3. Problems with repetitive data records, providing information to patients, evaluation, and preoperative visit.
4. Air ventilation system, air filtration, and ventilation of gases from the sniffing process in the operating room.
5. Operative patients
    5.1 Receiving inadequate information about self-care practice, medical fees, the name of the person providing services, operation period, and abnormal symptoms that required further medical examinations.
    5.2 Some operative patients had to wait for a long period of time.
6. Medical treatment records
    6.1 There was no instruction manual for recording procedure.
    6.2 Records were incomplete.
    6.3 Recording was repeated between operating nurses and anesthetist nurses.
7. A lack of complete media/ equipment/ documents for self practice education.
8. Readiness of operation personnel and instruments
    8.1 The system for calling the operating team was inefficient and slow.
    8.2 Determination of the operating team's roles in patient aid and rescue during emergency situation was not clear.
    8.3 On-duty doctor during consultation did not evaluate patients completely before operation.
    8.4 There were incidences of shortage in operation bandages/clothes.

9. delay of operation was also found due to the delay of the lab results and report documents and that mental and physical conditions of the patients were not ready.

Operative phase

1. A lack of written standard work instructions.
   1.1 Counting of operation equipment and instruments.
   1.2 Prevention and control of disease infection within the operating room such as washing hands, using antiseptic techniques, wearing of operation coats, and wearing protective gloves.
2. Risks

There was an incidence of a new infant born through abdominal operation got cut by forceps.

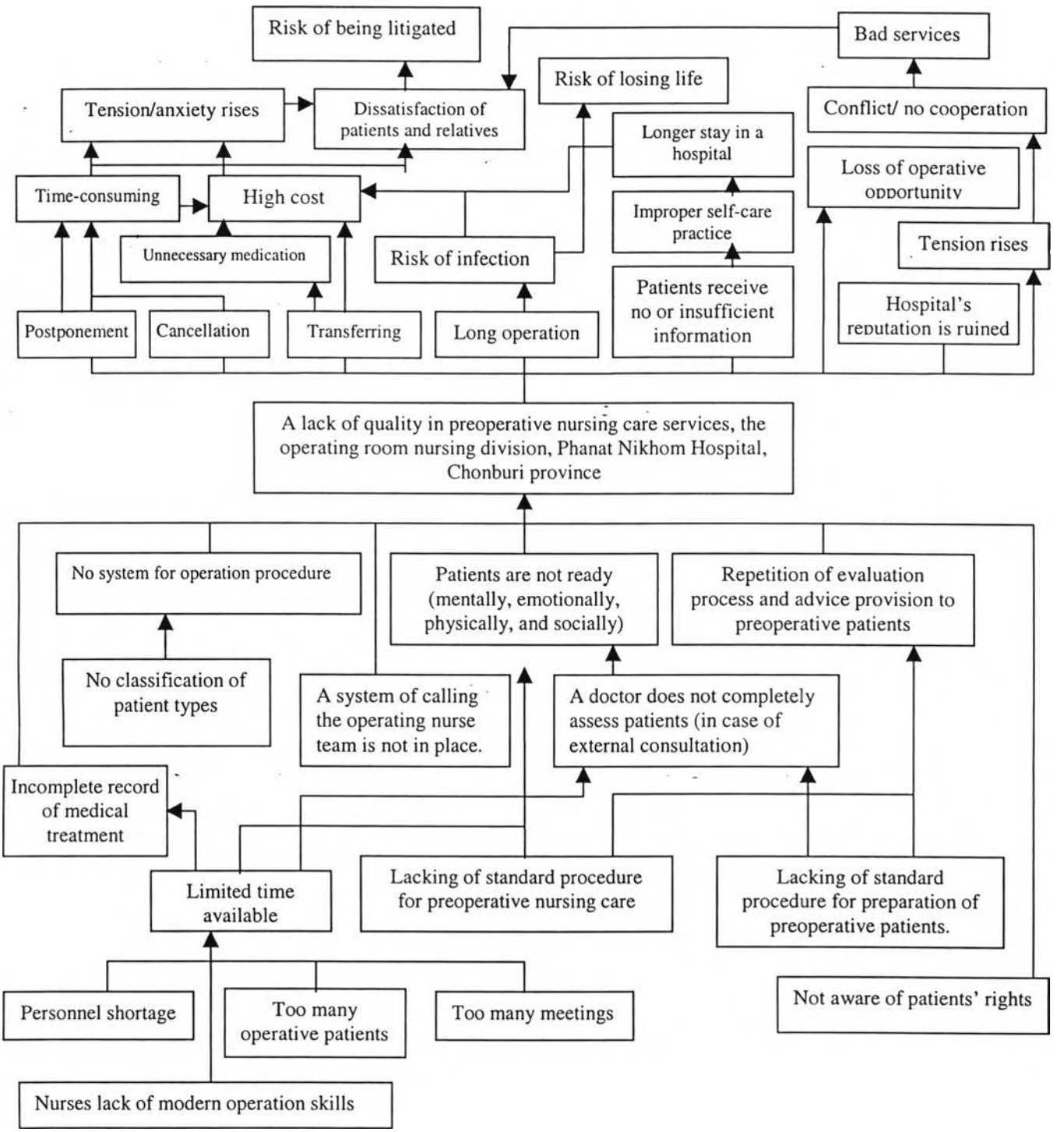
Postoperative phase

1. Lacking of continuity and a system for follow-up of postoperative patients.
2. Lacking of follow-up visit to postoperative patients at their home.
3. There was no nurse taking care of patients during transferring to patient wards.
4. Visit to postoperative patients was sometimes repeated between operating nurses and anesthetist nurses.
5. Completeness of postoperative patient visit was still below standard.
6. There was an incidence of operating wound infection after the operation.
7. There is no standard direction for disease infection prevention and control.
8. Uses of disinfectants.

4.7.5 Problem conditions, causes, and effects of low-quality preoperative nursing care services

The author conducted a group discussion session as well as content analysis of the data and found the conclusion about problem conditions, causes, and effects of a lack of quality in preoperative nursing care services as shown in Figure 4.1. It was found that each causal factor had an effect on the work of operation nursing team, operative patients, their family, and the hospital. The analysis outcomes obtained from the group discussion session are as follows in figure 4.2

Figure 4.2 : Chart showing analysis of causes and effects of a lack of quality in preoperative nursing care



Problem conditions, causes, and effects of low-quality preoperative nursing care services. The analysis outcomes obtained from the group discussion session show that (1) the system for preoperative patient preparation and evaluation was ineffective, (2) a lack of good coordination within the operating team, (3) Patients and their relatives received inadequate information, (4) The nurses still lacked of sufficient new expertise skills in providing nursing care

1. The system for preoperative patient preparation and evaluation was ineffective with a lack of coordination within the operating team causing anxiety in the patient. Completeness of operative visit was still below the standard level (70 %) as supported by the following opinions:

Operating nurse: "*Doctors sometimes did not allow sufficient time for thorough evaluation of patients before making operation appointment. Sometimes when we visited the patients at their wards and if the ward nurses had not finished preparing the patients, we could not do the evaluation and had to wait. The patients were then very worried and would not listen to us*".

Head of the operating room "*At the moment the frequency of preoperative visit has dropped down below the target because the nurses have a lot of responsibilities these days, including extra primary care duties and a lot of meetings to attend. If somebody outside the OR unit takes leave, one of us here has to go working outside as the policy said we have to help each other. The rest of us must do our cases here and there is no*

one to visit the postoperative patients. The target then dropped. It is resulted from indirect factors".

Some nurses rationalized that it was because there was no standard quality for operative nursing care and no standard procedure for patient care practices.

Anesthetist nurse "*There is no standard for patient preparation such as X-ray, cardio-signal examination, all patient cases that will receive nervous suppressing medication, if having 50 or more years of age, should undergo EKG examination, and all patients with 60 years of age or over should have lab results for electrolyte, BUN, Creatinin, and SGOT. Now even for the SGPT result, some patients have but some do not have".*

Anesthetist nurse "*There is no system for operation setting, lacking of systematic procedure for transferring and admission of operative patients with too much flexibility*".

Perioperative *nurse* *"There is no standard procedure for evaluation of preoperative patients".*

Nursing work instructions were set up to be standard procedure for the operative nursing team in carrying out their duties and for operation management of the nursing team members so that they could appropriately and consistently adopt such procedure in preoperative care. Work procedure of different organizations could be different depending on the environment, work nature, as well as the structure of the organization.

In order for the work system and procedure of preoperative care services to be effective and meet the patients' needs, discussion meetings among the co-professions were necessary to participate together in patient care planning.

The lack of quality in preoperative nursing care was found to have the effects on patients including cancellation and postponement of operation; transfer of patients to the regional hospital; and spending extra time to send patients back for additional diagnosis, in searching for complete documents as well as extra time to prepare patients in the operating room.

2. There was a lack of good coordination within the operating team in patient care. The collected data indicated that there was a clear lack of cooperation between the operating nurses and anesthetist nurses. Each party was independently doing their own work and sometimes repeating each other work. There was no communication among the patient care team and the patients had to explain their information to the nurses several times as the following opinions:

Anesthetist nurse "*There is a problem with repetitive history interviews. One nurse has finished asking and another nurse came to ask the same thing. There should be delivery or communication of such information. However, I was asking in the sense of being Anesth. , but if Scrub has finished the history interview, I would not want to repeat that. Again, if asking me: am I satisfied with the received information? , I believe that re-questioning the patient based on my different background knowledge is beneficial too in planning for nursing care for that particular patient*".

In co-working among the operating room nurses, some still lacked of understanding about each other roles in terms of patients' history interviews for nursing care planning, for example;

Anesthetist nurse " *Why does Scrub want to ask about that kind of history? What aspects would it help in planning for the operation? In this case, Scrubs should do the interview by themselves. If I go, I would not know how and what to ask. It should be their roles to ask, as I do not know what information is needed for what kind of further planning or for what kind of equipment preparation...* "

Specialized skills of the operating nurses and of the anesthetist nurses were essential and needed special training to be employed during nursing care. Operating nurses should have knowledge of physiology, pathophysiology, operating techniques, instrument handling, the operating room environment, and diagnosis with special equipment/instrument. Anesthetist nurses should know the techniques of providing various types of nervous suppressing substances. Importantly, holistic patient care approaches should be emphasized using preoperative care process. Especially in pre-evaluation of patients to collect information on physical, mental, emotional, and social conditions including various medical histories for further care planning, coordination within the nursing team was essential as different nurses had different specialized knowledge, skills, and experiences which were beneficial for different specialized patient care. Such nursing expertise demonstrated maximum uses of professional potential. Quality development activities are patient focus activities. Collaboration and

coordination among related organizations and professions are required to prevent and solve any potential problems.

3. The nurses still lacked of sufficient expertise skills in providing nursing care and assistance during bone surgery and microscopic operation that a long period of time was needed for preoperative care activities. The consequence was a delay in operative services, in case two operating rooms were opened for services which have started for approximately 3 months as the following opinion examples:

Perioperative nurse "*Actually when having ortho case, do we need these many people to help in preparing, if the nurses are competent? I think that if the nurses are more skillful than now, perhaps less people are needed for each room. If the doctor opens 2 rooms, we will have enough people to help and this will not cause a delay.*"

4.7.6 Result of data collection about the participants are able to identify the intervention to improve the preoperative nursing quality related to the problem

Model of practical guidelines for preoperative nursing care: This participatory action study and project was implemented within the scope of one community hospital. The project participants consisted of operating nurses, anesthetist nurses, and the author with the operating nurses entirely responsible for the project operation management. From the problem conditions of the preoperative nursing care an action plan was established for development of 7 aspects as follows:

1. Setting up work instructions and rules on "operation prioritization".
3. Determining criteria for classification of patient types.
4. Establishing guidelines or practice instructions for mental, emotional, and physical preparation of patients before receiving operation.
5. Establishing standard procedure for calling/arranging the operation nursing team.
6. Evaluating the expectations and needs of operative patients, their relatives, and of co-professional team involved in operative patient care.
7. Skill development of the operating nurses in bone surgery and microscopic operation.
8. Preparation of operation instruments and equipment.

4.7.7 Action plan

This phase of the research project involved the steps of planning and summarizing the action plan, implementation duration, as well as the responsible personnel, all which led to Phase 3, which was experimentation of the action plan according to the cycle of the action research. Table 4.1 showed the action plan for quality development of operative nursing care.

Table 4.1 : showed the action plan for quality development of operative nursing care.

Activities	2001-2002							Responsible personnel
	7	8	9	10	11	12	1	
1. Setting up work instructions and rules on "operation prioritization".		◄►	►					1. Head of the operating room 2. Head of anesthetist nurses 3. Perioperative nurse 4. Anesthetist nurse
2. Determining criteria for classification of patient types.		◄►	►					1. Anesthetist nurse 2. Perioperative nurse 3. Head of the operating room
3. Establishing guidelines or practice instructions for mental, emotional, and physical preparation of patients before receiving operation.		◄	►	►				1. Perioperative nurse 2 2. Anesthetist nurse 3. Head of the operating room 4. Head of anesthetist nurses
4. Establishing standard procedure for calling/arranging the operation nursing team.		◄►	►					1. Perioperative nurse 2. Anesthetist nurse
5. Evaluating the expectations and needs of operative patients, their relatives, and of co-professional team involved in operative patient care.		◄	►	►	►			1. Operating nurse 2 2. Anesthetist nurse 2
6. Skill development of the operating nurses in bone surgery and microscopic operation.	◄	►	►	►	►	►	►	1. Operating nurse 2. Head of the operating room
7. Preparation of operation instruments and equipment.				◄►	►			1. Operating nurse
8. Information meetings of related parties and coordination.				◄	►	►	►	1. Head of the operating room 2. Head of anesthetist nurses
9. Actual implementation of the imposed standard systems and procedures.					◄	►	►	All perioperative nurses team

4.8 Sustainability of the Project

Although at this point this research project has not been fully completed, further action plans will be implemented with aiming to obtain the direction for preoperative nursing care, to establish collaboration among the operating team, to reduce repetition of work in conjunction with establishment of clear activities and roles of the team, and finally to meet patients' satisfaction. The author who also works in the same hospital will be the person to provide advice to the project team as required, in terms of technical knowledge, measurement process, and evaluation. In addition, there are other 3 members of the operating nurse team who have been trained with participatory action research and have carried out at least one research project. Those include 1 operating nurse and 2 anesthetist nurses who have been equipped with knowledge and skills sufficiently to continue running this project

4.9 Lesson Learned

The data exercise activities helped the author to learn in the followings:

4.9.1 The author works in the same hospital as other colleagues in the project team and all have previously been working together as a team. This helped to save time for building relationship and trust within the team at the early stage, the project, therefore, received well-collaboration from all related personnel.

4.9.2 The schedule for group discussion sessions should be flexible to allow for emergency operation calls. It should be set with the agreement of the project team members (i.e. co-researchers) as there were a limited number of operating room nurses and both operating nurses and anesthetist nurses were normally required to assist in one operation session. The number of co-researchers in a group discussion was therefore small and inadequate to provide meaningful data, which were only obtained from the conclusive agreement of all co-researchers.

4.9.3 In preparation of materials and instruments for data collection such as audiotape recorders, 2 sets should be prepared in case one set is not functional. In this project, the author solved the problem by taking notes to obtain complete information for analysis.

4.9.4 Direct observation of group discussion process using the record form for observation of group process behaviors could be used by the author to improve and moderate participation of the co-researchers (in case that there is too little or too much participation).

4.9.5 With the assistance of other co-researchers in providing various opinions and information during the group process, in data collection for this project, it was found that sometimes other co-researchers were not available for such activity due to their normal duties and long duration of the research project. The method used to improve this problem was that the author could analyze how much the project team member participating in the activities by listening to the audio taped information.

It could then be used to modify and improve the direction of questions during later group process.

4.9.6 Provision of preoperative nursing care services was involved by several personnel including a surgeon, ward nurses, and emergency department nurses. It, therefore, required coordination after receiving the practical guidelines for preoperative nursing care to obtain holistic care by the co-professional team. The head of the operating room and the head of anesthetist nurses were responsible for coordination and requesting for brainstorming in order to obtain effective and high-quality patient care services.

4.10 Conclusion and Recommendation

The purpose of this study was investigated the situation and identify problem of preoperative nursing care quality. To that end, the study emerged as the result of perioperative nurse team dicussion issues that they perceived to be problematic in their nursing practice and unit environment. The result include : formulation of nursing management direction and guideline composed of vision, mission, value, purpose statement, scope of care, process of service, and investigation of opportunity & problem for improvement in preoperative nursing care, identification of problem, causes and the consequences of poor preoperative nursing care quality; planning for focus group discussion

Quality improvement of operative patient care using participatory action research of operative nursing team in the community hospital helped to obtain practical guidelines for patient care. They were resulted from collaboration in solving problems of the patients. All nursing personnel in the operating room participated in brainstorming, were provided with authority and equality in planning process, and participated in the development activities together. Those practices corresponded to the philosophy, principle and methodology of action research. The model of practical guidelines obtained for patient care could be practically implemented under the circumstance of the community hospital being studied. The personnel implementing such guideline procedure were also content as they also involved in the development process according to the conceptual framework of their professions.

Clear review of current problems and determination of the development scope were critical factors to take into consideration. Since operative nursing care consisted of 3 phases including preoperative, operative, and postoperative phases, high-quality preoperative care would result in positive outcomes of both operative and postoperative care leading to continuity of systematic care.

However, this research study required one year and two months to obtain satisfactory results and to evaluate the effectiveness of reducing, canceling or postponing any operation that is not ready. Therefore, the author and the colleagues needed to have strong intention and persistence to achieve the goal of patients' satisfaction. Since the author has been appointed with a new position, which is not related to the operating room duties, the action plans have been delivered to the

operative nursing team for further implementation. The author will provide supports in terms of documents and technical knowledge as required in order for the project to continuously run and contribute to the actual quality improvement of preoperative nursing care.