

Thesis
entitled

**PAIN EXPERIENCE AND PAIN MANAGEMENT IN
WOMEN AFTER CESAREAN SECTION**

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The purposes of this descriptive study are a) to compare pain severity among each of three days after cesarean section ; b) to compare pain's interference with patients' lifestyle among each of three days after cesarean section ; c) to identify pain management by physicians, nurses, and patients themselves in the first three days after cesarean section ; d) to measure patients' satisfaction with the results of pain management by professional health providers and patients themselves. The symptom management of Larson and others was used as the conceptual framework for this study. Purposive sampling was used to select 120 primigravidas women after cesarean section who were admitted at Postpartum wards of Rajvithi Hospital during December 1998 and February 1999. The instrument used for data collection was the questionnaire which gathered demographic data and pain data. The questionnaire was modified from Detroit Medical Center and Wayne State University.

The study found that the worst pain was most severe on the first day after cesarean section. The mean score of the worst pain was classified as a severe level ($M = 9.48$, $SD = 0.935$, $Range = 7-10$). The life style which was interfered with most was baby care. The pain management used most often by the patients was asking for pain medication and touching the abdomen. The physicians often used pain management by prescribing pain medication and paying attention to patients' pain, whereas nurses often used pain management by providing pain medication for patients and advise about proper breathing technique. Patients' satisfaction was assessed as moderate level of pain management by professional health providers and patients themselves.

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ชญาภรณ์ ไวยเนตดา : ประสบการณ์ความปวด และการจัดการกับความปวดในหญิงหลังผ่าตัดคลอดทางหน้าท้อง (PAIN EXPERIENCE AND PAIN MANAGEMENT IN WOMEN AFTER CESAREAN SECTION) คณะกรรมการควบคุมวิทยานิพนธ์ : อรพินทร์ เจริญผล, วท.บ. (พยาบาลสาธารณสุข), ค.ม. (การบริหารการพยาบาล), ยุวดี ภาษา, วท.บ. (พยาบาล), กศ.ด. (การวิจัยและการพัฒนาหลักสูตร). 84 หน้า. ISBN 974-662-653-1

การวิจัยเชิงบรรยายนี้มีวัตถุประสงค์เพื่อศึกษาประสบการณ์ความปวด ผลรบกวนของความปวดต่อการดำเนินชีวิต การจัดการกับความปวดโดยแพทย์ พยาบาล และตัวหญิงหลังผ่าตัดคลอดทางหน้าท้องเอง และความพึงพอใจต่อผลการจัดการกับความปวดที่ได้รับจากบุคลากรทางการแพทย์ และตัวหญิงหลังผ่าตัดคลอดทางหน้าท้องเอง โดยใช้แบบจำลองการจัดการกับอาการของลาร์สันและคนอื่น (Larson, et al., 1995) เป็นแนวทางในการวิจัย กลุ่มตัวอย่างที่ศึกษาเป็นหญิงหลังผ่าตัดคลอดทางหน้าท้องครรภ์แรก ที่ศึกษาหลังคลอด 5 ก. และ 5 ข. โรงพยาบาลราชวิถีระหว่างเดือนธันวาคม 2541 ถึง เดือนกุมภาพันธ์ 2542 จำนวน 120 ราย เลือกกลุ่มตัวอย่างแบบเจาะจงตามคุณสมบัติที่กำหนด เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลได้แก่ แบบบันทึกข้อมูลส่วนบุคคลและแบบสอบถามความปวดที่ดัดแปลงมาจาก Detroit Medical Center and Wayne State University

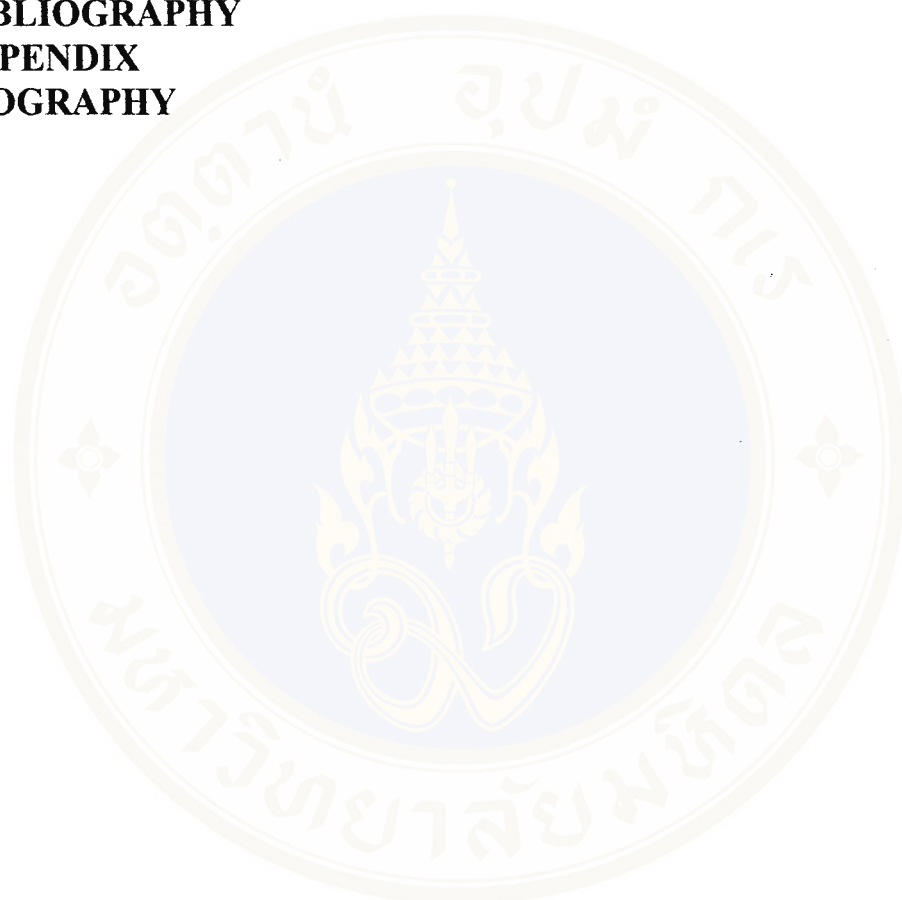
ผลการวิจัยพบว่า ความปวดสูงสุดของหญิงหลังผ่าตัดคลอดทางหน้าท้องมีความรุนแรงมากที่สุดในวันที่ 1 หลังผ่าตัด โดยมีคะแนนเฉลี่ยของความปวดสูงสุดอยู่ในระดับสูง ($M=9.48$, $SD=0.935$, $Range=7-10$) การดำเนินชีวิตที่ถูกรบกวนจากความปวดมากที่สุดคือ การดูแลทารก วิธีการจัดการกับความปวดที่แพทย์ใช้มากที่สุดคือ การสั่งยาแก้ปวด และ การสนใจและซักถามความปวดอยู่เสมอ จัดการกับความปวดที่พยาบาลใช้มากที่สุดคือ การจัดยาแก้ปวดให้ และ การแนะนำเกี่ยวกับการหายใจที่ถูกต้อง ส่วนการจัดการกับความปวดที่หญิงหลังผ่าตัดคลอดใช้มากที่สุดคือ การขอยาแก้ปวด และการลูบหน้าท้องเบาๆ หญิงหลังผ่าตัดคลอดทางหน้าท้องส่วนใหญ่มีความพึงพอใจต่อผลการจัดการกับความปวดโดยบุคลากรทางการแพทย์ และตนเอง อยู่ในระดับปานกลาง

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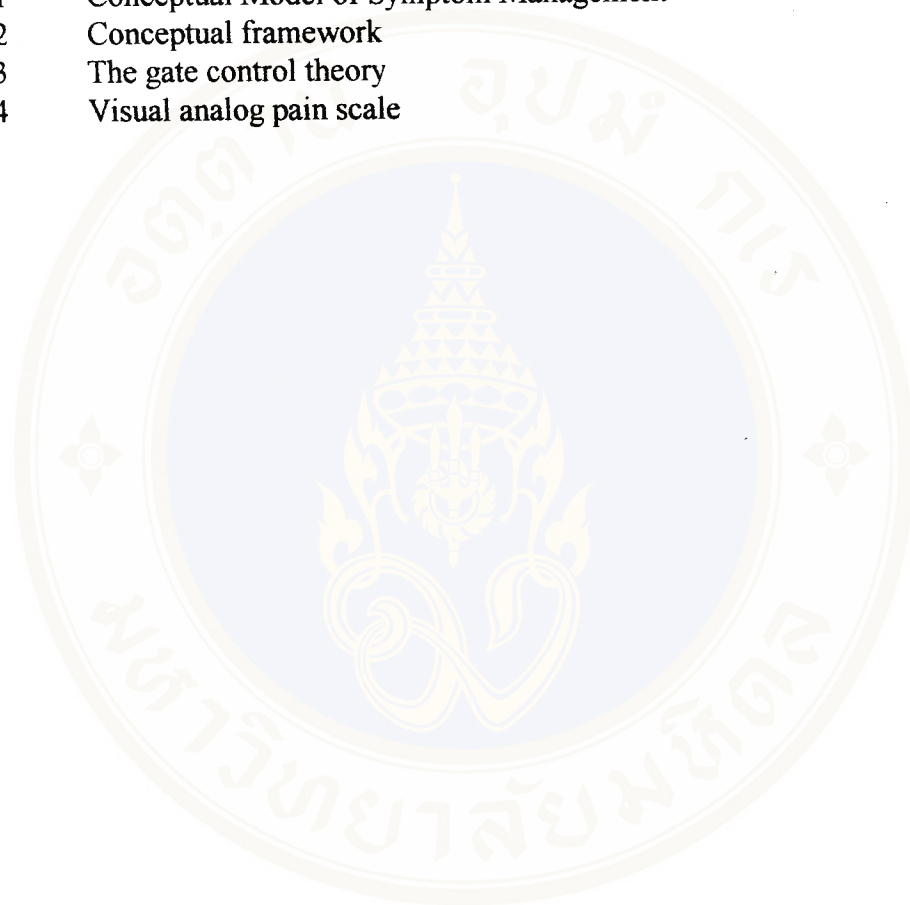
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CHAPTER I

INTRODUCTION

Background and rational

Nowadays, Cesarean delivery is a method to help childbirth. Cesarean section rate is rising both in Thailand and other countries, for instance, in UK averaging around 16%, 25% in the USA and over 35% in Brazil (Suntan & Stanton, 1996: 731). In Thailand, at Ramathibodi Hospital it was reported that cesarean section rate was about 28.6% in 1995 and increasing to 31.2% in 1997 and at Rajvithi Hospital reported cesarean section rate about 18.9% in 1995 and increasing to 20.6% in 1997. The increasing rate of cesarean delivery is depended upon the indication, high risk mother, such as breech presentation, prolonged labor, prophylaxis, and other alternative for forceps delivery and fear of painful labor. As a matter of fact the advantage used of electronic fetal monitoring can visual cut and fulfill the indication for cesarean section (Zdeb & Logrillo, 1989 cited by Miovech, et al., 1994: 53).

Wound pain and uterine pain are an expected outcome of cesarean section being consequence from tissue destruction, including physical, mentality, emotion, and society after cesarean section pain is an acute episode to be confronted. Bonica (1983 cited by Ignatavicious & Bayne, 1991: 116)) found that pain accompanying surgery is one of the most common examples of acute pain but it is poorly understood and not always well managed. It is conservatively estimated that 20% of all patients

undergoing surgery experience mild pain, 20-40% experience moderate pain, and 40-70% experience severe pain, respectively.

Painful stimuli cause actual tissue damage, which leads to the release of certain chemical substances, chemicals, activate pain receptors (Ignatavicius, et al., 1995: 121). Postoperative pain is variable particular being worst in first 48 hours and later become decreasing (Utting & Smith, 1979 cited by Carr, 1990: 90). Pain is the most frequent cause of suffering and discomfort (Bonica, 1990: 2). Women after cesarean section faced with pain that could be viewed both as physiological and psychological stressor and interfere to the pattern of sleep, activity, mood, and relationship to others. In particular, primigravidas women lack experience that caused fear and stress that activated to pain increasing.

Pain affected to maternal role, maternal conflict, breast feeding practice, and attachment. The study of Klaus & Kennel (1970) found that attachment behavior of nonseparated mother was greater than that of the separated mother when assessed at 3 days after delivery.

Professional health providers play an important role to relieve pain by evaluation, protection, and management of pain episode. But pain is the complex phenomena of an individual and subjective expression. No one could perceive other's pain (Favoloro, 1988: 27; Thompson, 1995: 160). Inadequately pain relief is one of the crucial problem after operation, rendering women undergo cesarean section seek shelter and help from others. Medicine is the major prescribed for pain's relief, even though, sometimes, the side effects, such as nausea, vomiting would be experienced (Jamornman, 1989: 2). Research studies suggest that nurses interpret pain differently

from patients, and may in fact question the patient's self-report of pain. The view promoted is that these interpretations and questioning of patient's self-report of pain may be in some way responsible for poor pain management (Carr, 1990 cited by Price & Cheek, 1996: 900). The study about pain problem in postoperative patients in Siriraj Hospital found that 53.3% of all patients had asked for pain relief drugs, success rate of pain relief was only 34.3% and there was no effect in 13.2%. About 71.8% of all patients had received analgesic drug prescription but only 44.1% were recorded to take the drugs. Some patients had pain but they did not bold to ask for drugs, endure to pain, fear to detriment from drug. Inadequacy of pain's relief can lead to physiologic complications, psychologic distress, family disruption, and prolongation of hospitalization rendering increased costs (Tyler & Krane, 1989: 157).

Pain is an interesting topic to physicians and nurses. Dimension of medicine will study about type and method of medication for pain management. Dimension of nurses will study about non medicine or alternative method for pain management such as the effect of music on pain relief.(Kittisupt, 1995), acupressure and massage(Kusump, 1989), relaxation technique(Jintanawat, 1995), planned nursing intervention(Rungkakulnuwat, 1990), touching (Suwantawakupt, 1992)etc. Numerous studies had been conducted on cancer patients, postoperative patients, back pain patients but there exists no study about pain experience and pain management in women after cesarean section. So researcher were interested in studying about pain experience, pain interference with life-style, pain management, satisfaction with result of pain management in women after cesarean section.

Conceptual Framework

Researcher adopts a model of symptom management designed by Larson and others to describe about pain experience and pain management.

Symptom is viewed as subjective experiences reflecting changes in a person's bio-psycho-social function, sensation, or cognition of suffering pain (Harver & Mahler, 1990 cited by Larson, et al., 1994: 273).

Symptom management model has three dimensions: the symptom experience, symptom management strategies, and symptom outcomes (figure 1) that three dimensions are interrelated.

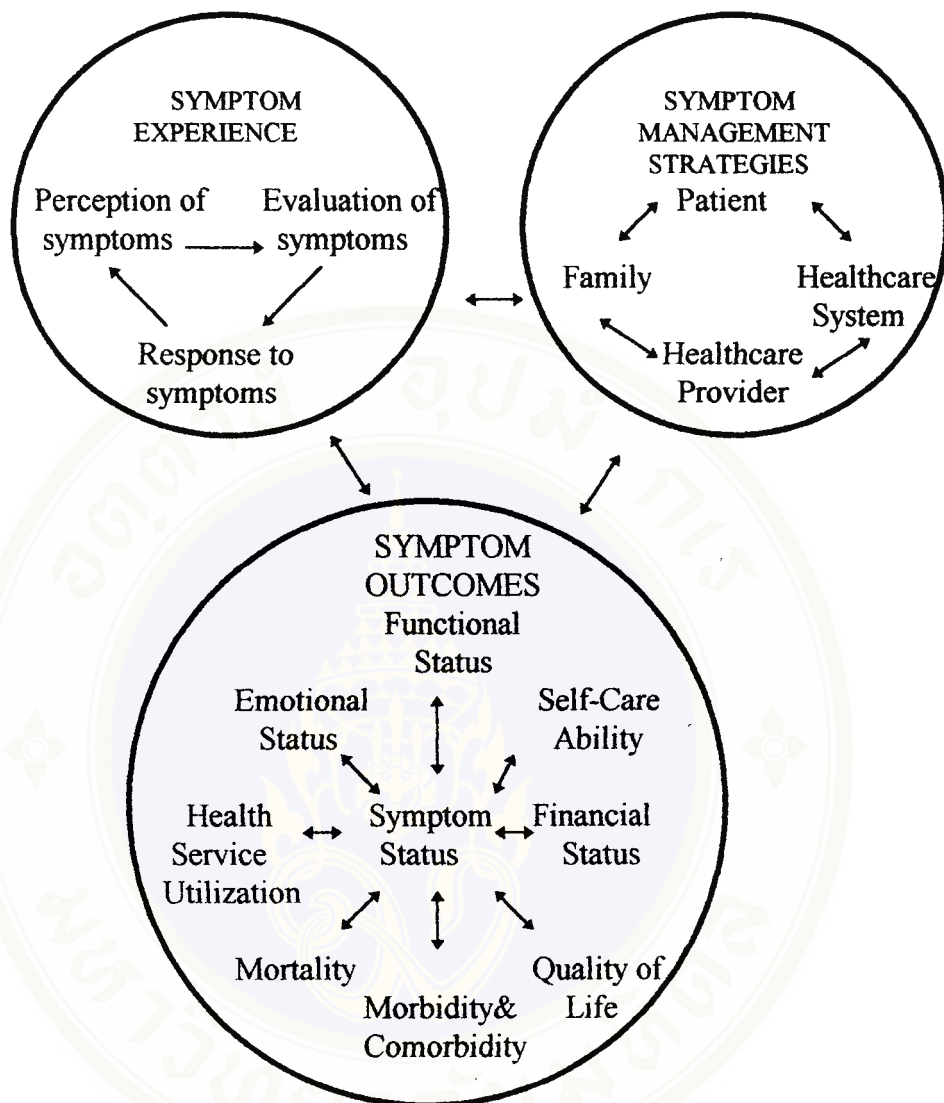


Figure 1 : Conceptual Model of Symptom Management (Larson et al., 1994: 273)

1. Symptom experience is a dynamic process, involving the interaction of the patients’ perception of a symptom, evaluation of the meaning of a symptom, and response to a symptom.

1.1 Perception of symptoms is a consciousness, cognitive interpretation of information gathered by senses in the context of a particular environment or situation. Variables that influence a person’s perception reflect bio-

psycho-social factors in three categories as personal variable, environment variable and health/ illness variable.

1.1.1 Personal variables are intrinsic and critical to the subsequent view of a symptom. Personal variables exist before the symptom, influence perception of the symptom, and, in turn, may be influenced by the symptom.

The basic demographic variables are age, sex, ethnicity, marital status, and financial status. Psychological variables include personality trait, cognitive capacity, and motivation. The sociological category incorporates the family unit, culture, and religion. Physiological variables are rest and activity patterns, and physical capacity.

1.1.2 Environment variable is the aggregate of condition or circumstances that the atmosphere and background within which a symptom is a perceived. Environment includes physical, social, ethnic, and cultural variables. The physical environment includes home, work, and play. The social environment is one's social support network. Cultural aspects of the environment are beliefs, values, and practices.

1.1.3 The health/illness variable is comprised of variables unique to the health or illness state of an individual including risk factors, health status, and disease or injury. Risk factors can be behavioral hereditary or other behavioral patterns. Health status incorporates physiological rhythms, bodily structure, and function. Disease and injury reflect acute and chronic deviations due to pathology.

Taken together, person, environment, and health/illness represent the variables that influence a person's perception about symptom.

1.2 Evaluation of symptom reflects a complex set of factors that characterize the symptom experience, including its intensity, location, temporal nature, frequency, and the associated pattern of disability. It also includes an individual evaluation of the threat posed by a symptom, such as its danger or disabling effect.

1.3 Response to symptoms. Person's response to a symptom includes physiological, psychological, and behavioral components.

1.3.1 Physiological responses are physical manifestations of symptom, such as heart palpitation, change in respiratory rate etc.

1.3.2 Psychological responses are reflected in cognitive or affective changes, such as mood changes, decreased ability on concentration or altered self-esteem.

1.3.3 Behavioral responses are the objective expressions of a symptom including verbal or social communication such as crying, yell, and conflict, or alterations in personal function including social withdrawal, change in patterns of sleep, or change in role performance.(Gortner & Jenkins, 1990 cited by Larson, et al., 1994: 274)

2. Symptom Management Strategies. Symptom Management is a dynamic process, often requiring changes in strategies over time or in response to a patient's acceptance of the strategy. The goal of symptom management is to avert or delay a

negative result through biomedical, professional, and self-care strategies. Management begins with assessment of the symptom experience from a patient's perspective. Assessment is followed by identification of the focus for intervention, implementation of interventions, and evaluation of results and the management process. Successful symptom management requires a patient-family-clinician partnership. The symptom management includes not only appropriate medications but also other controls that fit within the situation.

3. Symptom outcomes. Outcomes associated with the symptom experience are conceptualized as 10 multidimensional indicators including: symptom status, self-care ability, financial status, morbidity and comorbidity, mortality, quality of life, health service utilization, emotional status, and functional status. Symptom status is a center, and the other indicators are related as its periphery. Symptom outcomes may need to be changed or added or depending upon the patient's comorbid condition and may preclude the use of some symptom management strategies, family, healthcare provider, and healthcare system.

Cesarean birth, birth through and abdominal incision into the uterus. Operation causes tissue damage that results in the release of certain chemical substances. These chemicals activate pain receptors. As depicted in the symptom management model, the perception of pain after cesarean section originates by the transmission of noxious sensory input to the central nervous system. The stimuli that give rise to pain are those associated with tissue damage and the response to these stimuli involves reflection and cognition, by which the postoperative pain is experienced. Individual pain experiences are various, depending on the factors such

as race, religion, social, culture, and environment etc. Perception of pain among women after cesarean section would be assessed in terms of severity of pain, translated pain, and response to pain. The consequence of pain interfered with life style of women after cesarean section, such as daily routine, sleep, mood, relationship with others, cough and breathe deeply, and ability to perform other postoperative activities.

Pain management in women after cesarean section have been managed differently, depending on competency, perception, belief, and experience. Early postoperative, after cesarean section women will have severe pain that is managed by physician and nurse. After cesarean section, if women had inappropriate pain management, they will have stress and anxiety. The result of increased anxiety in women after cesarean section may be an increase in their pain that interferes activities, mood, walking, relationship with others, cough and breathe deeply. (Oberle, et al., 1990: 745). On the other hand, If pain, after cesarean section, can be managed by professional health providers effectively, the pain will be subside, increasing comfortable and self-care ability, without complication, contributing effective attachment , satisfaction, good emotion, rendering the happiness of their family and life style. So researcher designed conceptual framework as follow in figure 2

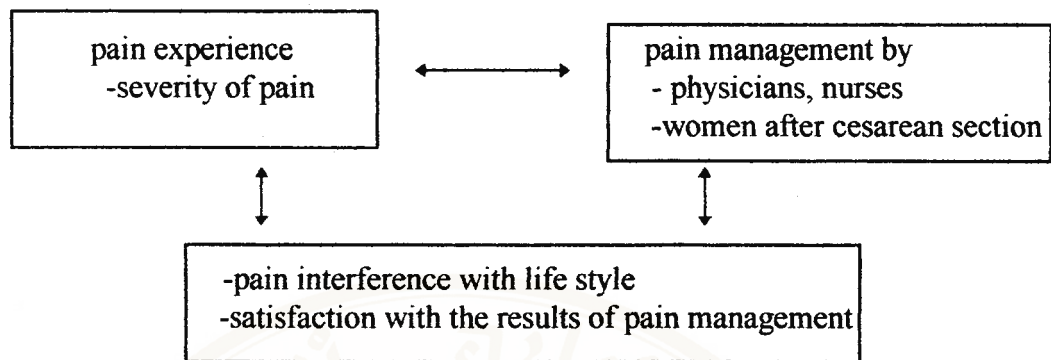


Figure 2 : Conceptual framework in this study

Research Questions

1. How different of pain severity are women after cesarean section experienced day on 1, 2, 3 ?
2. How different of pain interference with life style are women after cesarean section experienced on day 1, 2, 3 ?
3. What did the physicians and nurses provide for pain management in women after cesarean section?
4. What did the women after cesarean section use for pain management?
5. How satisfactory are the women after cesarean section have for the result of pain management?

Objectives: The objectives of this study are:

1. to compare the difference of pain severity among women after cesarean section on day 1, 2, 3 in Rajvithi Hospital.

2. to compare the difference of pain interference with life style among women after cesarean section on day 1, 2, 3 in Rajvithi Hospital.

3. to identify the strategies use by physicians and nurses in management of pain among women after cesarean section on day 1, 2, 3 in Rajvithi Hospital.

4. to identify the strategies use by women after cesarean section in the management of their pain on day 1, 2, 3 in Rajvithi Hospital.

5. to identify the satisfaction among women after cesarean section with the result of pain management in Rajvithi Hospital.

Research Hypotheses

1. There are different levels of pain severity of women after cesarean section on the first, second and third day.

2. There are different levels of pain interference with life style of women after cesarean section on the first, second and third day.

Assumption

1. Data of pain experience gathered from subjects indicated the relationship among pain perception, pain evaluation, and response to pain of among after cesarean patients.

2. Data of pain management of physicians and nurses was derived from patients assuming as true.

Scope of Study

This study described pain experience and pain management in primigravidas women after cesarean section on day 1,2,3 at postpartum wards of Rajvithi Hospital. The instrument used for data collection was the questionnaire that modified from that of Detroit Medical Center and Wayne State University.

Significance of this study

Knowledge and information regarding to the pain experience and pain management in women after cesarean section in this study would be benefit for nursing practice, nursing education, and nursing research.

For nursing practice

1. To lead to the development of quality in pain management of women after cesarean section.
2. To lead to the pain assessment and pain relief in women after cesarean section.

For nursing education

This study provided the information for the nursing education of caring in women after cesarean section and helped the instructors to guide the nurse students' practice in the clinical setting.

For nursing research

This study could provided the basic information for further research.

Definition of terms

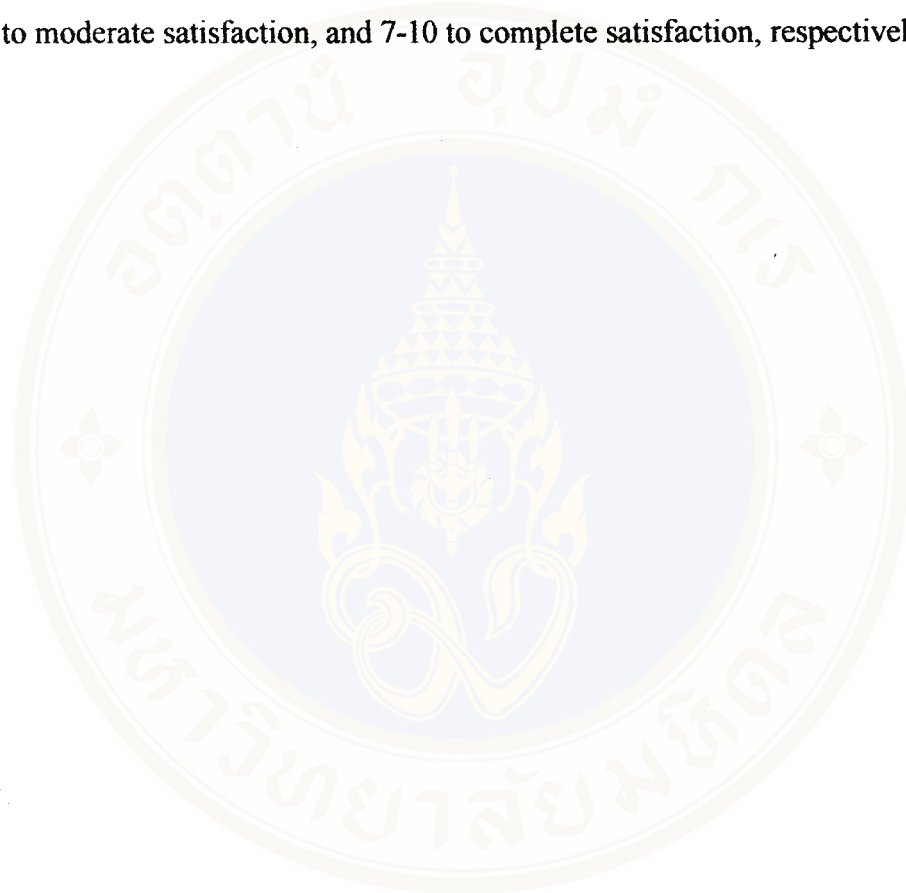
Pain experience is the perception on level of pain severity of women after cesarean section during 1-3 days. Pain experience was assessed by Pain Questionnaire which modified from Patient Questionnaire of Detroit Medical Center and Wayne State University. The questionnaire has 3 levels of pain severity that defined on 0-10 points numerical scale, ratings of 1-4 correspond to mild pain, 5-6 to moderate pain, and 7-10 to severe pain, respectively.

Pain management is the method for nurses and physicians to perform and/or advise to those women after cesarean section, and method was performed by the women themselves. Pain management includes both medication and non-medication method. It was assessed by questionnaire which was contributed by the researcher.

Pain interference with life style is the impact causing pain or inadequate pain management that interfere with life style of women after cesarean section, such as general activities, mood, walking or movement, relationship with others, sleeping, coughing and deep breathing, and other perform after cesarean section. It was assessed by Pain Questionnaire which modified from Patient Questionnaire of Detroit Medical Center and Wayne State University. The questionnaire has 3 levels of Pain' s interference that defined on 0-10 point numerical scale, ratings of 1-4 correspond to mild Pain' s interference, 5-6 to moderate Pain' s interference, and 7-10 to severe Pain' s interference, respectively.

Satisfaction with the results of pain management is the feeling of women after cesarean section which is the consequence of pain management which derived from professional health providers (physicians and nurses), and their pain

management. It was assessed by Pain Questionnaire which modified from Patient Questionnaire of Detroit Medical Center and Wayne State University. The questionnaire has 3 levels of Satisfaction with the results of pain management that defined on 0-10 point numerical scale, ratings of 1-4 correspond to mild satisfaction, 5-6 to moderate satisfaction, and 7-10 to complete satisfaction, respectively.



CHAPTER II

LITERATURE REVIEWS

This section presents the literature reviews that relate to the study problem which includes cesarean section, definitions of pain, postoperative pain, pain experience, pain interference, pain management, and satisfaction with the results of pain management.

Cesarean section

Cesarean section is the delivery of the fetus through an abdominal and uterus incision. The major indications for cesarean section are cephalopelvic disproportion (CPD), malpresentation, fetal distress, abruptio placentae, placenta previa. (Thompson, 1995: 195)

Type of incisions

There are two types of incisions in cesarean section

1.Skin incision. Skin incision is done in a vertical or transverse direction. The vertical incision allows more room if a large fetus is delivery or emergency. The transverse, or Pfannenstiel's incision is nearly invisible when healed or cosmetic purpose.

2.Uterine incision. There are three types of uterine incision: low vertical, low transverse, and classical.

Sequence of events in cesarean section

When the woman is anesthetized, scrubbed, and draped, the physician makes the skin incision. After making the uterine incision, the physician ruptured the membranes with a sharp instrument, such as a clamp. The physician reaches into the uterus to lift out the fetus. After birth of the baby, the physician scoops out the placenta. The uterine cavity is sponged to remove blood clot and other debris. The uterine and skin incisions are sutured by layer.

Definition of pain

Several attempt have been made to define pain in descriptive or measurable terms, yet, no definition is distinguished from another. the most popular definitions of pain is defined by the International Association for the Study of Pain (1979), McCaffery (1983), Guyton (1991), Watt-Watson & Donovan (1992), and Potter & Perry (1995).

The International Association for the Study of Pain (1979 cited by Dick, 1995: 844) described pain as “an unpleasant sensory and emotional experience which associated with actual or potential tissue damage”.

McCaffery (1983: 3) offered a more personal explanation of pain when he stated that pain “is whatever the experiencing person say it is and exists whenever he says it does”.

Guyton (1991: 520) asserted that pain is protective mechanism for the body in that it occurs when tissues are being damaged.

Watt-Watson & Donovan (1992:19) carry the definition further by including factors that may influence how the individual perceives pain as a complex

perceptual and affective experience determined by the unique history of the individual, by the meaning of the stimulus to him, by his state of mind at the moment, and by the sensory nerve patterns evoked by physical stimulation.

Finally, Potter & Perry (1995: 743) described pain is a complex mixture of physical, emotional, and behavioral reactions.

Regardless of the definition, most people agree that pain has sensory and behavioral components and being strongly influenced by various physiologic, psychologic, and sociologic factors. A comprehensive understanding of pain requires a knowledge of the descriptive definitions, physiology and theory of pain.

In summary, postoperative pain is an acute episode of pain that generally lasts a few days. It is an unpleasant sensation and emotional experience associated with the tissue damage caused by operation.

Postoperative pain

Postoperative pain is an acute episode of pain, it is an enduring and widespread problem in caring of the surgical patients. Although analgesic are being used for pain management after operation, most patients still suffer from severe pain.

According to Bonica (1983 cited by Ignatavicious & Bayne, 1991: 116) pain was estimated that 20 % of patients had mild pain, 20-40% had moderate pain, and 40-70% had severe pain.

Physiology and mechanism of postoperative pain

Pain is a complex process of physical, emotional, and behavioral reactions, which could be described in 3 steps as physiological, components of noxious stimuli, pain receptors, and pain impulse pathways (Boss, 1992: 1498; Potter & Perry, 1995: 743).

1. Noxious stimuli

Any cellular damage caused by physical stimuli results in the release of pain producing substances. Exposure to hot or cold, pressure, friction, and chemical stimuli release substances such as histamine, bradykinin, and prostaglandin.

2. Pain receptors

Free nerve endings or pain receptors are often referred to as nociceptors. Thermal, mechanical, and chemical stimuli also activate them (Ignatavicius & Bayne, 1991: 109). Not all tissues contain receptors that transmit pain signals. The brain and alveoli of the lung are insensitive to pain. The combination of pain stimuli with pain receptors reaches the threshold will activate the pain neurons. Because of variation in body shapes and size, the distribution of pain receptors in parts of the body also varies (Clancy & McVicar, 1992 cited by Potter & Perry, 1995: 743).

3. Pain impulse pathway

Usually, painful stimuli originate in the peripheral nerve ending of the body. The painful stimuli is perceived, however, must first be transmitted to the spinal cord and then to the central areas of the brain, as described by the gate control theory (Ignatavicius et al., 1995: 122). In the periphery, three types of nerves are concerned with the transmission of pain (Fordham, 1986 cited by Jacques, 1994: 607):

3.1 A beta fibers, which have a large diameter and are myelinated.

3.2 A delta fibers, which are found primarily in the skin and muscle. They are myelinated fibers that carry the impulse with rapid, sharp, pricking, or generally localize them readily to a fairly well-defined area. These fibers respond predominantly to mechanical stimuli, being called mechanical nociceptors.

3.3 C fibers, which are distributed in muscle, periosteum, and viscera. They are unmyelinated fibers that conduct thermal, chemical, and strong mechanical impulses. Pain conduction from c fibers is more diffuse dull, and burning sensation. C fibers usually produce a continuous and constant pain.

Gate control theory

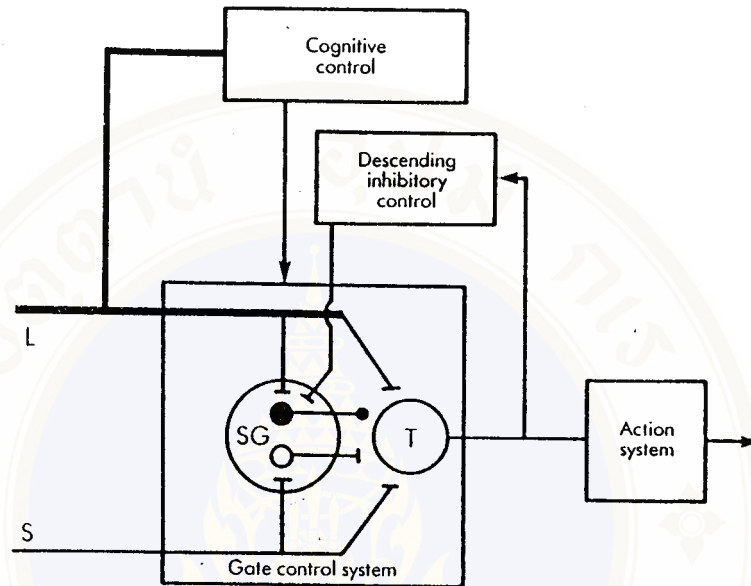
This theory was first proposed by Melzack and Wall in 1965. It was approved by Casey and Melzack in 1982. The gate control theory was proposed to explain the relationship between pain and emotion. Melzack and Wall (1982) said that pain is not just a physiologic response, but that psychologic response, such as behavioral and emotional responses, influence the perception of pain.

According to the gate control theory, a gating mechanism occurs in the spinal cord. Pain impulses are transmitted from the peripheral nerve ending of the body by small fibers and large fibers. The impulses travel to the dorsal horns of the spinal cord, specifically to the area of the cord called the substantia gelatinosa (SG) cells that can inhibit or facilitate pain impulses that are transmitted to trigger cells (T cells). The spinal gating mechanism is influenced by the relative amount of activity in large fibers and small fibers. When trigger cells activity is inhibited, the gating is

closed and impulse are less likely to be transmitted to the brain. When the gating is opened, pain impulses ascend to the brain by passing lateral spinothalamic tract that being provided the neospinothalamic and paleospinothalamic tract. The neospinothalamic projecting system in the brain serve as a process of sensory discriminative information about the location, intensity, and duration of stimulus, whereas impulses that pass through the paleospinothalamic tract activate reticular and limbic structures that provoke the powerful motivational and aversive drive and unpleasant. When the output of the spinal cord transmission cell exceeds a critical level, it activates the action system. Those neural areas that underline the complex sequential pattern of behavior and experience characteristics of pain. (Bonica, 1990: 10)

Gating mechanisms exist in the descending nerve fibers from the thalamus and cerebral cortex. These areas regulated a person's thoughts and emotions, beliefs and values. When pain occurs, a person's thoughts and emotions can influence whether pain impulses reach the level of conscious awareness (Meinhart & McCaffery, 1983 cited by Ignatavicius et al., 1995: 120).

Accordingly , the gate control theory proposed that presence or absence of pain is determined by the balance between the sensory and central inputs to the gate control system. If there is an input from higher levels of the central nervous system, the gate will be opened. On the other hand, any central nervous system activity that increases the flow of descending impulses tends to close the gate. (Figure 3)



- = inhibitory L = Large diameter fibers
- o = excitatory S = Small diameter fibers
- SG = Substantia gelatinosa

Figure 3 : The gate control theory

(Watt-Watson & Donovan, 1992: 20)

Pain experience

Pain experience includes the perception of pain, pain assessment, and response to pain.

Pain perception

Perception of pain is subjective, highly complex, and individual. Pain perception is the second phase of the pain process. Once pain has been received and transmitted, it must be perceived. Because every individual perceives based on individual's experience, this is one point at which pain becomes different for each person. (Black & Mattassarini-Jacobs, 1993: 314)

Perception is the point at which a person is aware of pain. Perception of pain was described into three interaction systems of pain as sensory-discriminative, motivational-affective, and cognitive-evaluative (Meinhart & McCaffery, 1983 cited by Potter & Perry, 1995: 746).

1. Sensory- discriminative .Nerve transmission occurs between the thalamus and sensory cortex. A person perceives the location, severity, and character of pain. Factors that lower consciousness, such as analgesics decrease pain perception. Factors that increase the awareness of the stimuli, such as anxiety, sleep deprivation increase pain perception.

2. Motivational-affective. Interaction between the reticular formation and limbic system results in pain perception. The reticular formation creates a defensive response, causing a person to interrupt or avoid pain stimuli. The limbic system controls emotional response and coping with pain.

3. Cognitive-evaluative. Higher cortical centers in the brain influence perception. Culture, experience with pain, and emotions influence a person's evaluation of the pain experience.

Pain assessment

When patients state having pain, it is important to make a rapid assessment, collecting both subjective and objective data before taking any actions (Long, In Long & Phipps, Eds, 1989: 175).

1. Subjective data. The best assessment of pain is the patient's own evaluation. Data need to be gathered about the nature of the acute pain, that is the location, intensity, quality, timing, and palliative factors. Pain intensity can be determined by various means. One way is to ask the patient to describe the pain or discomfort. Another method is to ask the patient to describe the severity of the pain using a pain scale. That Serlin and others (1995) explored the relationship between numerical ratings of pain severity and ratings of pain's interference with such functions as activity, mood, and sleep. Data were collected from patients from different such countries as United States of America, France, China, and the Philippines. Pain severity could be classified into groups roughly comparable to mild, moderate, and severe and being found the optimal cutpoints from 3 distinct levels of pain severity and pain's interference with function that can be defined on a 0-10 point numerical scale. Ratings of 1-4 correspond to mild pain and pain interference with function, 5-6 to moderate pain and pain interference with function, and 7-10 to severe pain and pain interference with function. The pain scale score can be record on flow chart to provide ongoing assessment of progression of the pain. (Figure 4)

2.2.2 Vocal behavior: moan, cry, appear frightened.

2.2.3 Affective behavior: angry, uneasy.

2.3 Assessment from quantity of drug that received.

Dose of drug indicated to level of severity of pain and duration. (Oden, 1989: 3)

Response to pain

Patients undergo surgery respond to pain in different ways depending on their perception of pain, including what it mean to them. Some may be fearful, apprehensive, and anxious, whereas others are tolerant and optimistic. Numerous factors influence response to pain, such as age, cultural values, meaning of pain to individual, degree of pain, and professional's responses (Long, Phipps, & Cassmeyer, 1993: 166).

Pain interference

Pain is stressful event that has the potential for altering the patient's life style and psychological well-being. Patients who live with pain are less able to participate in routine activities. That pain interferes with the patient's sleep pattern, normal work activities, and social activities (Potter & Perry, 1995: 755-756). If pain is inadequately managed, it can lead to physiologic complications, psychologic distress, family disruption, interruption of hospital routine, and prolongation of hospitalization with resultant increased costs (Tyler & Krane, 1989: 157-158). Ineffective pain management affected to women after cesarean section suffering, discomfort, decreasing relationship with others, and delay performing maternal role. Studying of Kanoksunthornrut (1992) in patients with abdominal surgery found that daily life

which was disturbed the most by pain during postoperative periods were walking, general activity, enjoyment, mood, and relationship with others. The same as Sriwatanakul and others (1983) found postoperative pain interfered with walking 90.1 %, sleeping 56.7%, concentration 34.5%, talking 30.8%, and eating 18.4%.

Pain management

The gate control theory is very useful in understanding and devising measures that may relieve pain. Pain management can be applied from principles of the gate control theory as pharmacologic intervention and non-pharmacologic intervention.

1. Pharmacologic intervention. Pharmacological agents act at different levels of the nervous system to relieve pain.

- 1.1 Narcotic analgesics ,such as morphine act on higher centers of the brain and spinal cord by binding with opiate receptors to alter perception of pain and behavioral response to the pain (Potter & Perry, 1995: 763). Most narcotic drugs are capable of relieving severe pain. In addition, the common side effects of respiratory suppression, nausea, and vomiting (Sweency, in Jacox, Ed,1977: 343).

- 1.2 Non-narcotic analgesics ,such as acetylsalicylic acid (aspirin) and acetaminophen (Tylenol) tend to act at peripheral sites to reduce pain, often by inhibiting transmitter-substance mobilization. These drugs do not bind to opiate receptor sites. Non-narcotic agent relieve mild to moderate pain (Sweency, in Jacox, Ed,1977: 343).

Administration of medication requires an accurate evaluation of the patient's physical and emotional state and need for the medication, and it requires

knowledge about the action of the medication, the anticipated therapeutic effects, the potential side or toxic effects, and alternatives for pain control (Beyer & Dudas, 1984: 172).

2. Non-pharmacologic interventions. A wide variety of sensory, cognitive, and behavioral control may contribute to pain management by altering the nociceptive stimuli that they perceive modifying central processing of nociceptive input, improving overall sense of comfort and well-being, or bolstering coping skills.

2.1 Sensory control

2.1.1 Reducing pain perception. One simple way to promote comfort is by removing or preventing painful stimuli, such as position patient correctly.

2.1.2 Cutaneous stimulation includes touch, massage, heat and cold applications. Likewise, cutaneous stimulation is an intervention base on the gate control theory and the release of endorphins. That cutaneous stimulation activates the large diameter nerve fibers. This decreases pain transmission though small diameter nerve fibers (Beyer & Dudas, 1984: 176; Brunner & Suddarth, 1988: 241).

Touch and massage are sensory integration techniques that influence autonomic nervous system activity. When a person perceives touch to be relaxing, the relaxation response is elicited (Meck, 1993: 17-21). Massaging an area of pressure for patient who has been immobilized for prolonged periods may be another means of providing for patient comfort and relief of pain. It creates a soothing

sensation of warmth, increasing the blood supply, and decreasing the intensity of muscle spasms (Beyer & Dudas, 1984: 176).

Heat and cold applications may be used to control some types of pain. The selection of heat versus cold intervention varies with patients' conditions. Heat applications may be indicated to relieve muscle tension or spasm. Here relief is also facilitated by the increased rate of blood flow to areas of tension. Cold applications may be indicated to reduce accumulation of fluid and swelling, and produce a local anesthetic effect. Using heat application for relieve pain in woman after cesarean section be careful, it causes bleeding.

2.2 Cognitive control is altering the thoughts and appraisals that surround painful events is valued and supported by health professional (Watt-Watson & Donovan, 1992: 178-180). Cognitive control may reduce pain perception by engaging the mind so that awareness of the incoming pain stimuli is reduced (Lowe, 1996: 89). Cognitive components of pain include relationship and teaching, giving information, distraction, relaxation, guided imagery, and meditation.

2.2.1 Relationship and teaching. The two pain relief measures basic to all others are the nurse-patient relationship and patient teaching about pain and its relief. Certain aspects of the relationship and teaching serve to reduce the patient's anxiety about pain, as was indicated earlier, reducing anxiety results in pain relief, either by decreasing the intensity of pain. Conveying to patients that their complaints about pain are believed can help reduce their anxiety (Brunner & Suddarth, 1988: 244-245).

2.2.2 Giving information. Giving accurate information assist patients increasing perception about pain, and decreasing anxiety and conflict. Nurses can help patients bring feeling of fear and anxiety into the open, helping them to see that the overt expression of these emotions have been controlled. The selection of giving information varies with patients' conditions. Information that patients should be know, such as causing of pain, duration of pain severity, and management of pain (McCaffery, 1979: 57-65). Many studies have found that preoperative information could decreased postoperative pain (Bysshe, 1988; Linderman & Aerman, 1971; Magpum, 1987).

2.2.3 Distraction is "directing one's attention away from the sensations or emotional reactions produced by noxious stimulus, blocking awareness of pain stimulus" (McCaul & Malott, 1984 cited by McGuire & Sheildler, 1993: 542). With meaningful sensory stimuli, a patient can ignore or become unaware of pain. Pleasurable stimuli cause the release of endorphins. Distraction may reduce the awareness of pain and even increase pain tolerance (Potter & Perry, 1995: 761; Watt-Watson & Donovan, 1992: 188). Useful forms of distraction include singing, listening to music, watching television, reading, and caring baby.

2.2.4 Relaxation techniques are specific procedures to promote mental and physical freedom from tension and stress (Beyer & Dudas, 1984: 177; Donovan & Pierce, 1984: 246; McGuire & Sheildler, 1992: 543; Potter & Perry, 1995: 762). Patients who use relaxation techniques successfully go through physiological and behavioral changes, such as decreased blood pressure, muscle tension, and increased concentration on a single idea. For effective relaxation the

patient needs to participate and cooperate. The environment should be free of noises or other irritating stimuli. From studying of Jamornman (1989) found the patients with abdominal surgery were trained relaxation technique suffered less pain sensation and pain distress, used less analgesics in the 24 hours immediately after surgery than the patients with abdominal surgery were not trained relaxation technique.

2.2.5 Guided imagery is “a quasiperceptual event of which we are self-consciously aware and that exists for us in the absence of those stimuli that produce their genuine sensory (Richardson, 1969 cited by Watt-Watson & Donovan, 1992: 181). Guided imagery, in which an individual visualizes pleasant place or things, is frequently used in conjunction with relaxation (McGuire & Sheildler, 1992: 543). The patient creates an image in the mind, concentrates on that image, and gradually becomes less aware of pain (Potter & Perry, 1995: 762).

2.2.6 Meditation is relaxation and deep-breathing techniques to help control tension and alter biophysical functioning. Meditation has been shown to cause a marked decrease in body oxygen consumption and decreased metabolic rate during time of meditation (Beyer & Dudas, 1984: 177). This technique may be reduced muscular tension and relieved pain.

Satisfaction with the results of pain management

Satisfaction is positive affection or attitude when person is responded according his/her expectations that depend on time and situation (Anusasanant, 1993: 34). Donabedian (1988: 1744) said “ satisfaction of patient is one indicator of quality patient care.

Satisfaction with the results of pain management is conceptualized as the degree of congruency between a patient's expectations of ideal pain management and their perception of the real pain management that received. Postoperative pain is a special problem that is eliminated (Bonica, 1990: 461). So patients expected to receive management about pain from health professionals. If patients do not derive interesting or helping from health professionals, they will be dissatisfied. Many studies found lack of information, inadequate pain relief that lead to patients' dissatisfaction (Carr, 1990; Cohen, 1980; Khun, et al., 1991)

In summary, Postoperative pain is an acute pain, it is caused by tissue damage. It has not only a sensory component related to tissue destruction but also a major psycho-social component. Much literature reported that there is a different degree of postoperative pain for these patients, some are mild, moderate, and severe pain. The severe pain may interfere with the life style of patient, such as activities, mood, walking, relation with others. There are two methods of pain management which are pharmacological interventions and non-pharmacological interventions. Quality of pain management has been evaluated by narcotic consumption, pain intensity score, and patient satisfaction. Literature review found study in cancer patients, postoperative patients, back pain patients but not found study about pain experience and pain management in women after cesarean section. So researcher interested to study about pain experience, pain interference with life-style, pain management, satisfaction with result of pain management in women after cesarean section.

CHAPTER III

MATERIALS AND METHODS

The objective of this study was to determine about pain experience, pain interference with life style, pain management, and satisfaction with the result of pain management in women after cesarean section, 1-3 days consecutively.

Population and Sample

In this study, population were primigravidas women after cesarean section who was admitted at Postpartum wards of Rajvithi Hospital from December, 1998 to February, 1999.

Inclusion criteria of the sample were:

1. gestation age ranging from 37 weeks and above.
2. woman after cesarean section not less than 24 hours.
3. ones were conscious, able to understand and speak Thai.
4. consent to participate in this study.

Exclusion criteria of the sample were :

1. have chronic pain
2. have severe complication and being admitted in ICU.

This study samples were selected by purposive method. The sample size were 120 subjects (10% of primigravidas women after cesarean section who were admitted at Rajvithi Hospital in 1998)(Singchangchai, et al., 1996: 14).



Site of the study

The study site was allocated at postpartum wards admitting post cesarean section patients of Rajvithi Hospital. There are 36 beds in each ward. Women after cesarean section were cared in recovery room to be observed abnormal symptoms and complication. After the patients condition were stable, they were referred to postpartum wards. Twenty-four hours after cesarean section, nurses would advise the patients to practice early ambulation and bring their babies to enhance breast feeding and maternal-child bonding according to the policy of Rajvithi Hospital.

Instrumentation

Instruments of this study included two parts.

1. Demographic data of women after cesarean section and data about cesarean section.

1.1 Personal data : age, religion, level of education, occupation, and family income.

1.2 Data about cesarean section : gestation, skin incision, indication of cesarean section, operative time of cesarean section, and type of anesthesia.

2. Pain Questionnaire used in this study was modified from pain questionnaire of Detroit Medical Center and Wayne State University. There were 22 items including severity of pain (4 items; assessed from item 2-5), pain interference with life style (7 items; assessed from item 7-13), satisfaction with the results of pain management (2 items; assessed from item 14-15), and pain management which was

derived from physicians (1 item; assessed from item 20), pain management was derived from nurses (3 items; assessed from item 16,18, and 21), pain management of women after cesarean section (3 items; assessed from item 17, 19, and 22).The details were given as follow:

2.1 Severity of pain included existing pain , the worst pain, the least pain, and the average pain. The level of pain severity can be defined on a 0-10 points numerical scale, presented as a row of equidistant numbers. These scales are bounded by 0 = no pain, 5 = moderate pain, and 10 = the worst pain.

2.2 Pain' s interference with life style included pain interference with general activities, mood, walking or movement, relationship with others, sleeping, coughing and deep breathing, and performing after cesarean section. The pain interference with life style can be defined on a 0-10 points numerical scale, presented as a row of equidistant numbers. These scales are bounded by 0 = no interference, 5 = moderate interference , and 10 = complete interference.

2.3 Satisfaction with the results of pain management included satisfaction of subjects with the results of pain management that derived from physicians, nurses, and patient themselves. Satisfaction with the results of pain management that can be defined on a 0-10 points numerical scale, presented as a row of equidistant numbers. These scales are bounded by 0 = great dissatisfaction, 5 = moderate satisfaction , and 10 = great satisfaction.

2.4 Pain management was performed by physicians, nurses, and patients.

2.4.1 Pain management by physicians was assessed by

management of physicians when patients reported their pain. There were 8 choices for patients to choose more than 1 choice.

2.4.2 Pain management by nurses took the longest time to assess because they had to wait when they asked for pain medication and changing or adding medication. There were 10 choices for patients to choose more than 1 choice for assessing management by nurses.

2.4.3 Pain management by patients included assessing about asking for more pain medication or other methods to relieve the pain, reason of the patients without taking pain medication, and management of patients when they had pain. There were 8 choices for patients to choose more than 1 choice.

The level of pain severity, the degree of pain interference, and satisfaction with the results of pain management are determined by researcher that used conscription of Serlin & others (Serlin, et al., 1995: 277-284)

Rating of 1-4 correspond to mild pain/ pain interference/ satisfaction.

Rating of 5-6 correspond to moderate pain/ pain interference/ satisfaction.

Rating of 7-10 correspond to severe pain/ pain interference/ satisfaction.

Content validity and reliability

Patient Questionnaire of Detroit Medical Center and Wayne State University modified from the American Pain Society Questionnaire and Brief Pain Inventory (BPI). Serlin, et al. (1995) brought the instrument to study cancer patients in 4 countries as USA, France, China, and The Philippines. Coefficient alpha for pain severity and interference items for the 4 countries were 0.87, 0.86, 0.86, and 0.80, and interference alpha were 0.91, 0.90, 0.91, and 0.86. Pattawee (1998)

translated Patient Questionnaire of Detroit Medical Center and Wayne State University into Thai language and studied in patients with cardiovascular thoracic surgery by median sternotomy. Coefficient alpha for pain severity in 1-3 days consecutively after surgery were 0.54, 0.84, and 0.86, respectively. Coefficient alpha for pain interference and satisfaction with the results of pain management were 0.69 and 0.77.

In this study, researcher brought Patient Questionnaire of Detroit Medical Center and Wayne State University to translate into Thai language. The content validity in Thai version was tested by five experts in this field, three of them were obstetrician, and the other two were instructors of the nursing department. Their suggestions were incorporated in this instrument. To test for the reliability of the questionnaire, it was tried out with twenty subjects in the puerperium unit of Rajvithi Hospital which had similar characteristics. The reliability of the questionnaire of pain severity, pain interference, and satisfaction with the results of pain management were tested by using coefficient alpha method. The results of coefficient alpha of pain severity, pain interference, and satisfaction with the results of pain management were 0.77, 0.70, and 0.70. After researcher brought to repeat testing reliability in 120 cases who could meet criterias. The results of coefficient alpha of pain severity, pain interference, and satisfaction with the results of pain management were 0.81, 0.74, and 0.71.

Data collection procedure

Data collection procedure was conducted in the following sequences:

1. Asking for permission in collecting data by submitting the document from the Graduate Studies, Mahidol University to the director of Rajvithi Hospital, Head nurse of postpartum wards admitting post cesarean section patients.
2. Identifying the sample according to inclusion criteria from the women after cesarean section.
3. Patients were informed about the purpose of study. Explanations about the nature, rationale, and requirement of the study were given. Patients were asked to indicate their willingness to participate and the signature consent from were obtained when they agreed to participate in this study.
4. The demographic data was collected by the researcher when the subjects were admitted at postpartum wards admitting post cesarean section patients.
5. Every 24, 48, and 72 hours after cesarean section, the researcher assessed pain severity, pain interference, and pain management by reading the questionnaire to the patients and asked the patients to choose the number that valid and matched with their feeling.
6. 72 hours after assessment of pain severity, pain interference, and pain management ,then the researcher assessed about satisfaction with the results of pain management.
7. When the instrument was completed, the researcher collected them and processed the data ready for analysis.

Analysis of data

The analysis of the data collected from 120 subjects was computerized by the Statistical Package for the Social Sciences for Windows (SPSS/FW).

1. Frequency distribution, percentage, range, mean, and standard deviation were used to describe demographic data.
2. Range, mean, and standard deviation were used to analyzed the severity of pain and One Way ANOVA Repeated measure was used to compare the severity of pain among 1, 2, and 3 days after cesarean section.
3. Range, mean, and standard deviation were used to analyzed the pain interference with life style and One Way ANOVA Repeated measure was used to compare the pain interference with life style among 1, 2, and 3 days after cesarean section.
4. Frequency distribution and percentage were used to describe pain management by physicians, nurses, and subjects.
5. Range, mean, and standard deviation were used to describe satisfaction with the results of pain management.

CHAPTER IV

RESULTS

In this chapter the results of data analysis will be presented to each specific research question.

Characteristic of demographic data

Subjects were selected in this study by purposive method. One hundred and twenty subjects were included.

The 120 subjects were attributed to demographic data i.g., groups of age, religion, level of education, occupation, family income, indication of cesarean section, operative time of cesarean section, skin incision, type of anesthesia, and gestation which are presented in table 1

Table 1 Number and percentage of patients' characteristics

Characteristic	N	%
	(120)	
Religion		
Buddhist	114	95.0
Christian	5	4.2
Islam	1	0.8
Level of Education		
Primary school	67	55.8
Secondary school	44	36.7
Associate degree	9	7.5

Table 1 (continue) Number and percentage of patients' characteristics

Characteristic	N	%
	(120)	
Occupation		
Housewife	43	35.8
Government service	1	0.9
Commerce	19	15.8
Laborer	55	45.8
Student	2	1.7
Family income/month		
0-4,999 baht	21	17.5
5,000-9,999 baht	36	30.0
10,000-14,999 baht	42	35.0
≥15,000 baht	21	17.5
Indication of cesarean section		
CPD	92	76.7
Breech Presentation	12	10.0
Fetal distress	3	2.5
Non-progress of Labor	13	10.8
Operative time of cesarean section		
31-60 minutes	52	43.4
61-90 minutes	61	50.8
91-120 minutes	7	5.8
Skin incision		
Low transverse incision	51	42.5
Low vertical incision	69	57.5
Type of anesthesia		
Epidural block	27	22.5
Spinal block	13	10.8
General anesthesia	80	66.7
Age (years old)		
Range 18-36		
Mean 26.11		
S.D. 4.56		
Gestation Age (weeks)		
Range 37-40		
Mean 38.17		
S.D. 0.86		

Table 1 shows characteristics of demographic data. The age of all subjects were between 18-36 years old ($X=26.11$, $S.D.= 4.56$). Among the respondents majority 95 % were Buddhist. 55.8 % were finished primary school, 45.8 % were Laborer. The family income was assessed about 80% earned more than 5,000 bath per month.

All cases of cesarean section were done at term of pregnancy (37-40 weeks). The most common indication for cesarean was CPD (76.7 %), next was non-progress of labor (10.8%), and the least was fetal distress (2.5%). Among cesarean cases, the operation was done by low vertical incision slightly more than low transverse incision with, majority, type of anesthesia used general anesthesia (66.7%). The operative time was 61-90 minutes (50.8%).

Research Question 1 : How different of pain severity are women after cesarean section experienced on day1, 2, 3?

Comparison difference of mean score of existing pain, the worst pain, the least pain, and the average pain among 1, 2, 3 days after cesarean section by using One Way ANOVA Repeated Measure Technique. The results were presented in Table 2.

Table 2 The difference of mean score of existing pain, the worst pain, the least pain, and the average pain among day 1, 2, 3 after cesarean section using One Way ANOVA Repeated Measure Technique. (n=120)

Pain	Duration after cesarean section	Range	Mean	S. D.	F
Existing pain	Day 1	4-10	7.05 (severe)	1.533	195.86***
	Day 2	3-10	6.02 (moderate)	1.580	
	Day 3	0-7	4.29 (mild)	1.446	
The worst pain	Day 1	7-10	9.48 (severe)	0.935	220.79***
	Day 2	5-10	8.69 (severe)	1.286	
	Day 3	3-10	6.84 (moderate)	1.665	
The least pain	Day 1	0-7	3.13 (mild)	1.526	28.56***
	Day 2	0-7	4.02 (mild)	1.640	
	Day 3	0-5	2.83 (mild)	1.299	
The average pain	Day 1	5-8	6.64 (moderate)	0.986	157.35***
	Day 2	3-9	6.14 (moderate)	1.266	
	Day 3	1-8	4.88 (mild)	1.336	

*** p<.001

Table 2 shows that there are statistically significant difference of mean score of existing pain, the worst pain, the least pain, and the average pain among post cesarean patients on day 1,2,3. (P<.001)

Multiple comparison difference of mean score of pain immediate, the worst pain, the least pain, and the average pain on 1-3days after cesarean section by using Tukey Honesty Significant Difference Test (HSD Test). The results were presented in Table 3, 4, 5, and 6 respectively.

Table 3 Tukey Honesty Significant Difference Test (HSD Test) of mean score of existing pain on day 1-3 after cesarean section. (n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		7.05	6.03	4.29
Day 1	7.05		1.02**	2.76**
Day 2	6.03			1.74**
Day 3	4.29			

**p<.01

Table 3 shows the existing pain on the first day has higher mean score than the second day and the third day, and the pain right now on the second day has higher mean score than the third day with statistically significance (P <.01).

Table 4 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the worst pain on day 1-3 after cesarean section. (n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		9.48	8.69	6.84
Day 1	9.48		0.79**	2.64**
Day 2	8.69			1.85**
Day 3	6.84			

**p<.01

Table 4 shows the worst pain on the first day has higher mean score than the second day and the third day, and the worst pain on the second day has higher mean score than the third day with statistically significance (P <.01).

Table 5 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the least pain on the 1-3 days after cesarean section. (n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		3.13	4.02	2.83
Day 1	3.13		0.89**	0.30 ^{ns}
Day 2	4.02			1.19**
Day 3	2.83			

**p<.01, ns = non significance

Table 5 shows the least pain on the second day has higher mean score than the first day and the third day with statistically significance (P <.01), but not for the least pain scores between the first day and the third day.

Table 6 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the average pain on the 1-3 days after cesarean section. (n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		6.64	6.14	4.88
Day 1	6.64		0.50**	1.76**
Day 2	6.14			1.26**
Day 3	4.88			

**p<.01

Table 6 shows the average pain on the first day has higher mean score than the second day and the third day, and the average pain on the second day has higher mean score than the third day with statistically significance (P<.01).

Research question 2 How different of pain interference with life style are women after cesarean section experienced on day 1, 2, 3?

Comparison difference of mean score of pain interference with general activities, mood, walking or movement, relationship with others, sleeping, coughing and deep breathing, and baby care among 1, 2, 3 days after cesarean section by using One Way ANOVA Repeated Measure. The results were presented in Table 7.

Table 7 The difference of mean score of the pain interference with general activities, mood, walking or movement, relationship with others, sleeping, coughing and deep breathing, and baby care among day 1, 2, 3 after cesarean section using One Way ANOVA Repeated Measure Technique. (n=120)

Pain interference with life style	Duration after cesarean section	Range	Mean	S. D.	F
General activities	Day 1	5-10	9.56 (severe)	1.052	764.48***
	Day 2	3-10	7.38 (severe)	1.379	
	Day 3	0-8	4.35 (mild)	1.628	
Mood	Day 1	0-10	6.98 (moderate)	3.158	191.44***
	Day 2	0-10	5.52 (moderate)	3.295	
	Day 3	0-8	1.79 (mild)	2.223	
Walking or Movement	Day 1	0-10	9.54 (severe)	1.838	462.02***
	Day 2	5-10	7.57 (severe)	0.857	
	Day 3	0-8	4.24 (mild)	1.402	
Relationship with others	Day 1	0-10	5.54 (moderate)	2.694	205.04***
	Day 2	0-8	3.28 (mild)	2.408	
	Day 3	0-5	0.90 (mild)	1.697	
Sleeping	Day 1	0-10	7.56 (severe)	3.215	73.49***
	Day 2	0-10	8.09 (severe)	2.185	
	Day 3	0-10	5.10 (moderate)	2.420	
Coughing and deep breathing	Day 1	0-10	7.01 (severe)	2.112	33.24***
	Day 2	0-10	5.98 (moderate)	3.157	
	Day 3	0-8	4.29 (mild)	2.509	

Table 7 (continue) The difference of mean score of the pain interference with general activities, mood, walking or movement, relationship with others, sleeping, coughing and deep breathing, and baby care among day 1, 2, 3 after cesarean section using One Way ANOVA Repeated Measure Technique. (n=120)

Pain interference with life style	Duration after cesarean section	Range	Mean	S. D.	F
Baby care	Day 1	7-10	9.56 (severe)	0.492	807.73***
	Day 2	5-10	7.38 (severe)	1.119	
	Day 3	2-8	4.35 (moderate)	1.330	

*** p<.001

Table 7 shows that there are statistically significant difference of mean score of the pain interference with general activities, mood, walking or movement, relationship with others, sleeping, coughing and deep breathing, and baby care among day 1, 2, 3 after cesarean section (P<.001).

Multiple comparison difference of mean score of pain interference with general activities, mood, walking or movement, relationship with others, sleeping, coughing and deep breathing, and baby care on 1-3days after cesarean section by using Tukey Honesty Significant Difference Test (HSD Test). The results were presented in Table 8, 9, 10, 11, 12, 13, and 14 respectively.

Table 8 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the pain interference with general activities on the 1-3 days after cesarean section.

(n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
Day 1	9.56	9.56	2.19**	5.21**
Day 2	7.38		7.38	3.03**
Day 3	4.35			4.35

**p<.01

Table 8 shows the pain interference with general activities on the first day has higher mean score than the second day and the third day, and the pain interference with general activities on the second day has higher mean score than the third day with statistically significance (P<.01).

Table 9 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the pain interference with mood on the 1-3 days after cesarean section. (n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
Day 1	6.98	6.98	1.46**	5.19**
Day 2	5.52		5.52	3.73**
Day 3	1.79			1.79

**p<.01

Table 9 shows the pain interference with mood on the first day has higher mean score than the second day and the third day, and the pain interference with mood on the second day has higher mean score than the third day (P<.01).

Table 10 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the pain interference with walking or movement on the 1-3 days after cesarean section.

(n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		9.54	7.57	4.24
Day 1	9.54		1.97**	5.30**
Day 2	7.57			3.33**
Day 3	4.24			

**p<.01

Table 10 shows the pain interference with walking or movement on the first day has higher mean score than the second day and the third day, and the pain interference with walking or movement on the second day has higher mean score than the third day with statistically significance (P<.01).

Table 11 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the pain interference with relationship with others on the 1-3 days after cesarean section.

(n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		5.54	3.28	0.90
Day 1	5.54		2.26**	4.64**
Day 2	3.28			2.38**
Day 3	0.90			

**p<.01

Table 11 shows the pain interference with walking or movement on the first day has higher mean score than the second day and the third day, and the pain interference with walking or movement on the second day has higher mean score than the third day with statistically significance (P<.01).

Table 12 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the pain interference with sleeping on the 1-3 days after cesarean section. (n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		7.56	8.09	5.10
Day 1	7.56		0.53 ^{ns}	2.46**
Day 2	8.09			2.99**
Day 3	5.10			

**p<.01, ns = non significance

Table 12 shows pain interference with sleeping on the second day has higher mean score than the first day and the third day, and the pain interference with sleeping on the first day has higher mean score than the third day with statistically significance (P<.01). However, there were no statistically significant differences in the pain interference with sleeping scores between the first day and the second day.

Table 13 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the pain interference with coughing and deep breathing on the 1-3 days after cesarean section. (n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		7.01	5.98	4.29
Day 1	7.01		1.03**	1.69**
Day 2	5.98			2.72**
Day 3	4.29			

**p<.01

Table 13 shows the pain interference with coughing and deep breathing on the first day has higher mean score than the second day and the third day, and the pain interference with coughing and deep breathing on the second day has higher mean score than the third day with statistically significance (P<.01).

Table 14 Tukey Honesty Significant Difference Test (HSD Test) of mean score of the pain interference with baby care on the 1-3 days after cesarean section. (n=120)

Duration after cesarean section	Mean	Duration after cesarean section		
		Day 1	Day 2	Day 3
		9.90	7.66	5.06
Day 1	9.90		2.24**	4.84**
Day 2	7.66			2.60**
Day 3	5.06			

**p<.01

Table 14 shows the pain interference with baby care on the first day has higher mean score than the second day and the third day, and the pain interference with baby care on the second day has higher mean score than the third day with statistically significance (P<.01).

Research question 3 What did the physicians and nurses provide for pain management in women after cesarean section?

Table 15 Number and percentage of subjects that reported about pain management by physicians.(n=120)

Duration after cesarean section	Day 1		Day 2		Day 3	
	N	%	N	%	N	%
Management *						
Giving information	16	13.3	11	9.2	4	3.3
Paying attention to patient's pain	55	45.8	56	46.7	56	46.7
Giving encouragement	8	6.7	33	27.5	30	25.0
Order pain medication	62	51.7	20	16.7	3	2.5
Advising correct breathing	5	4.2	7	5.8	8	6.7
Advising correct coughing	5	4.2	4	3.3	5	4.2
Advising changing posture	8	6.7	7	5.8	12	10.0
No advised	1	0.8	7	5.8	11	9.2

*Can be chosen more than 1

As Table 15 shows the pain management used most by physicians on the first day were order pain medication (51.7%), paying attention to patient’s pain (45.8%), and giving information about cesarean section (13.3%), respectively. The second day, the pain management used most by physicians were paying attention to patient’s pain (46.7%), giving information about cesarean section (27.5%), order pain medication (16.7%), respectively. The third day, the pain management used most by physicians were paying attention to patient’s pain (46.7%), giving encouragement (25%), advising changing posture (10%), respectively.

Table 16 Number and percentage of subjects that reported about pain management by nurses.(n=120)

Duration after cesarean section Management *	Day 1		Day 2		Day 3	
	N	%	N	%	N	%
Giving information	17	14.2	2	1.7	10	8.3
Report physicians	28	23.3	4	3.3	2	1.7
Provide pain medication for patient	76	63.3	20	16.7	5	4.2
Paying attention to patient’s pain	27	22.5	21	17.5	10	8.3
Giving encouragement	5	4.2	18	15.0	12	10.0
Advising about correct breathing	11	9.2	40	33.3	39	32.5
Advising about correct coughing	12	10.0	22	18.3	10	8.3
Advising to changing posture	16	13.3	27	22.5	9	7.5
Advising to reading	0	0.0	0	0.0	8	6.7
Advising to care baby	2	1.7	16	13.3	21	17.5

*Can be chosen more than 1

Table 16 shows the pain management used most by nurses on the first day were providing pain medication for patients (63.3%), reporting to physicians (23.3%), and paying attention to patient’s pain (22.5%), respectively. The second day, the pain

management used most by nurses were advising about correct breathing (33.3%), advising and helping to change posture (22.5%), and advising about correct coughing (18.3%), respectively. The third day, the pain management used most by nurses were advising about correct breathing technique(32.5%), advising to care baby (17.5%), giving encouragement (10%), respectively.

Table 17 Number and percentage of subjects that reported on the duration of medication administration of nurses when patients asked for pain medication.(n=120)

Duration after cesarean section Duration of medication administration	Day 1		Day 2		Day 3	
	N	%	N	%	N	%
< 10 minutes	27	24.1	8	8.5	9	20.9
11-20 minutes	27	24.1	23	24.5	9	20.9
21-30 minutes	36	32.1	26	27.6	10	23.3
31-60 minutes	16	14.3	17	18.1	8	18.6
>60 minutes	3	2.7	0	0.0	1	2.3
Asked for medication but never received it.	3	2.7	20	21.3	6	13.9

Table 17 shows duration of medication administration by nurses when subjects asked for pain medication on 1, 2 3 days after cesarean section were 21-30 minutes (32.1%, 27.6%, and 23.3%, respectively).

Table 18 Number and percentage of subjects that reported about duration of medication administration of nurses when subjects asked for changing or adding pain medication.(n=120)

Duration after cesarean section		Day 1		Day 2		Day 3	
		N	%	N	%	N	%
Duration of medication administration							
< 1	hour	2	7.4	0	0.0	0	0.0
1-2	hours	22	81.5	3	100.0	0	0.0
Asked for medication but never received it.		3	11.1	0	0.0	0	0.0

Table 18 shows duration of medication administration by nurses when subjects asked for changing or adding pain medication on 1, 2 days after cesarean section were 1-2 hours (81.5% and 100%, respectively). On the third day found nobody asking for changing or adding pain medication from nurses.

Research question 4 What did the women after cesarean section use for pain management?

Table 19 Number and percentage of subjects that reported about pain management by patients themselves.(n=120)

Duration after cesarean section		Day 1		Day 2		Day 3	
		N	%	N	%	N	%
Management							
Asking for pain medication							
	Yes	112	93.3	94	78.3	43	35.8
	No	8	6.7	26	21.7	77	64.2

Table 19 (continue) Number and percentage of subjects that reported about pain management by patients themselves.(n=120)

Duration after cesarean section	Day 1		Day 2		Day 3	
	N	%	N	%	N	%
Management						
Asking for changing or adding pain medication						
Yes	27	22.5	3	2.5	0	0.0
No	93	77.5	117	97.5	120	100.0
Patient's reasons that did not asking for changing or adding pain medication *						
To fear side effect of pain medication	5	5.4	5	4.3	0	0.0
To fear side effect of new pain medication	2	2.1	0	0.0	0	0.0
To concern about getting addicted	21	22.6	12	10.3	10	8.3
To concern about drug abuse	3	3.2	6	5.1	2	1.7
Do not like to bother other	42	45.2	61	52.1	43	35.8
Do not want to answer	2	2.1	2	1.7	3	2.5
To concern about danger of pain medication with baby	18	19.4	31	26.5	62	51.7
Pain management of subjects*						
To report physician or nurse	45	37.5	9	7.5	2	1.7
To breathe deeply	41	34.2	49	40.8	21	17.5
To change posture	18	15.0	43	35.5	26	21.7
To touch softly on abdominal	10	8.3	40	33.3	60	50.0
To read magazine	1	0.8	4	3.3	2	1.7
To pray or meditation	2	1.7	4	3.3	2	1.7
To distract by baby care	1	0.8	9	7.5	29	24.2

*Can be chosen more than 1

As Table 19 shows subjects asked for pain medication from nurses on 1, 2, 3 after cesarean section were 93.3%, 78.3%, and 35.8%, respectively, and did not asked for pain medication from nurses on 1, 2, 3 after cesarean section were 6.7%, 21.7%, and 64.2%, respectively. When subject's pain did not relieve after taking

medication, subjects asked for changing or adding pain medication on 1, 2 days were 22.5% and 2.5%, respectively, whereas on the third found nobody asking for changing or adding pain medication. The reasons that subjects did not asking for changing or adding pain medication on the 1, 2 days were “do not to bother other” (45.2% and 52.1%, respectively), whereas on the third day, the reasons that subjects did not asking for changing or adding pain medication was afraid of effects of pain to danger with baby (51.7%).

The pain management used most by patients themselves on the first day were asking for pain medication (93.3%), reporting to physicians or nurses (37.5%), and deep breathing (34.2%), respectively. The second day, the pain management used most by patients themselves were asking for pain medication (78.3%), deep breathing (40.8%), changing position (35.8%), respectively. The third day, the pain management used most by patients themselves were touching on abdominal (50%), asking for pain medication (35.8%), distraction by baby care (24.2%), respectively.

Research question 5 How satisfactory are the women after cesarean section have for the results of pain management?

Researcher provided 3 levels of satisfaction with the results of pain management that used conscription of Serlin & Others (Serlin, et al., 1995: 277-284) following as rating of 1-4 correspond to mild satisfaction, 5-6 to moderate satisfaction, and 7-10 to very satisfaction

Satisfaction with the results of pain management included satisfaction with the results of pain management by professional health providers and patients themselves. The results were presented in Table 20.

Table 20 Range, means, standard deviations for satisfaction with the results of pain management by professional health providers and patients themselves on the 1-3 days after cesarean section. (n=120)

Satisfaction	Duration after cesarean section	Range	Means	S. D.	Level of satisfaction
Professional health providers	Day 1	4-10	6.62	1.34	Moderate
	Day 2	4-9	5.01	1.25	Moderate
	Day 3	4-10	5.45	1.03	Moderate
Patients	Day 1	3-8	5.82	1.03	Moderate
	Day 2	4-10	5.45	1.03	Moderate
	Day 3	3-8	5.83	1.06	Moderate

Table 20 shows the satisfaction with the results of pain management by professional health providers on 1, 2, 3 days after cesarean section. had mean score of 6.62, 5.45, and 5.01, respectively. A mean score of 6.62, 5.01, and 5.45 were correspondingly “moderate satisfaction”.

The satisfaction with the results of pain management by patients themselves on 1, 2, 3 days after cesarean section. had mean score of 5.82, 5.45, and 5.83, respectively. A mean score of 5.82, 5.45, and 5.83 were correspondingly “moderate satisfaction”.

CHAPTER V

DISCUSSION

In this part, the researcher discusses the results of this study according to the objectives.

Objective 1 : To compare the difference of pain severity among women after cesarean section on day 1, 2, 3.

In this study, pain severity including existing pain, the worst pain, the average pain among 1, 2, 3 days showed statistically significant difference ($p < .001$). (Table 2) The existing pain, the worst pain, and the average pain had the highest mean score on the first day and later become decreasing. This finding is according to postoperative pain mechanism. Pain after cesarean section was caused by actual tissue damage, which leads to the release of chemical substance, to facilitating transmission through small diameter fiber that tends. This mechanism allows the pain impulse to be transmitted further to higher center in the brain, rendering person perceived about severity of pain. Chemical substance was released in large amount on the first day postoperative and later become decreasing (Bonica, 1990: 463; Edwards & Breed, 1990: 263). This finding is consistent with many studies, it also found that patient underwent postoperative pain had the worst pain on the first 48 hours and later become decreasing (Kanoksunthornrut, 1992; Khun, et al., 1990; Oberle, et al., 1990; Utting & Smith, 1979 cited by Carr, 1990: 90). However, this finding did not consistent with the study of Pattawee (1998) that carried on postoperative patients

with cardiovascular thoracic surgery founding pain severity had the highest mean score of pain on the second day.

This study showed that the least pain had the highest mean score of pain on the second day, and the lowest mean score of pain on the third day. Because on the first day patient after cesarean section underwent action of anesthesia during operation, in addition, patients were received injection pain medication, such as morphine and pethidine. These drugs acted by binding with opiate receptors in the Central Nervous System (CNS) that inhibits the transmission of the painful, or nociceptive to the brain by closing the gate at the spinal cord. So that pain perception of patients may be decreased, and patients feel less pain (Bonica, 1990: 10; Jackson, 1995: 27-28; Watt-Watson & Donovan, 1992: 132). On the second day, patients felt consciously with the tissue edema and tissue damage and started to perform activities, such as early ambulating, daily activities, and baby care. All of the mentioned components contributed least pain being most severe on the second day. In addition, pain medication are order to be given every 4-6 hours in doses that sometimes are inadequate for pain relief. In addition, the results of this study showed that the patient's reason on not asking for pain medication were the nature of subjects need not to bother others (52.1%), fear of effects of pain medication to danger with baby (26.5%), and fear about drug abuse (10.3%) (Table 19). This finding is consistent with study of Moderman (1995) found that postoperative patients did not ask for pain medication because of fearing about drug addicted and side effects. Sometimes, patients endured when they had pain, or they asked for pain medication when they had severe pain. Drugs were given ineffective for pain relief (Owen, et al., 1990:

303-307). Study of Cohen (1980) suggested that 75.2% of patients suffered moderate and severe pain after surgery even with the routine analgesics.

Objective 2 : To compare the difference of pain interference with life style among women after cesarean section on day 1, 2, 3 in Rajvithi Hospital.

This study showed that all kind of interference from pain with life style of patients among 1, 2, 3 days had statistically significant difference ($p < .001$) (Table 7). All kind of pain interference with life style had the highest mean score on the first day, the lowest mean score on the third day, except pain interference with sleeping had the highest mean score on the second day, and the lowest mean score on the third day (Table 12). That pain interference had the highest mean score on the second day because the first 24 hours after cesarean, patients were exhausted including with action of anesthetics that received during operation, in addition, patients were given injection for pain medication, such as morphine and pethidine. These drugs acted by binding with opiate receptors in the CNS that rendered patients drowsy. These reasons effect that pain interfered with pattern of sleep of patients on the first day less than the second day. According to conscription about symptom management of Larson and others beleived that pain interference depend on pain experience and pain management (Larson, et al., 1995: 272-276). If patients received inadequate pain relief rendering increasing of pain's threshold that interfered with life style of patients. The researcher paid attention to the worst pain. The worst pain was the symptom that being experienced by the physician and nurses for being interested and destined goal of the treatment. This study showed that patients reported the worst pain as severe pain and severe pain interference. Likewise, previous study suggested that

the worst pain was a positive significant correlation with the functional abilities (Pattawee, 1998; Portenoy, et al., 1992).

Objective 3 : To identify the method use by physicians and nurses in management of pain among women after cesarean section on day 1, 2, 3 in Rajvithi Hospital.

Pain management by physicians

On the first day after cesarean section, physicians intended to manage pain relief by prescribing pain medication for patients. Patients had the worst pain experienced on the first day ($X=9.48$). The best method of pain relief on the first day was by using pain medication. Study of Bonica (1990) found postoperative patients 12-36 hours had severe pain experienced that had to received analgesic to reduce their pain. Analgesics (e.g., morphine) acts by binding with opiate receptors in the Central Nervous System (CNS) that inhibits the transmission of the painful, or nociceptive to the brain by closing the gate at the spinal cord rendering pain perception of patients decreased (Bonica, 1990: 10; Jackson, 1995: 27-28). The pain management used most often by the physicians on the second day and the third day were paying attention to patients' pain. Patients perceived that physicians saw them every day meanted physicians paid attention to them. This reinforces to patients trust and friendly. These perception reduced the general anxiety of patients and resulted in reduced pain level (Chapman, In Smith & Covino (Eds.), 1985: 34). This study, physicians concerned about pain management by non-pharmacology (e.g., giving information, words of encouragement, and other advises) (Table 15). Giving information and words of encouragement reduced anxiety, confusion, and conflict that may perception of accurate data, coping ability and tolerance of pain (Gross,

1986: 229). Similarly, study of Loungsukhchareon Jakakul (1997) found pain management that physicians used the most often were non-opioid analgesics and non pharmacology interventions 68.33%.

Pain management by nurses

This finding showed pain management that nurses used the most often on the first day were providing pain medication for patients, whereas on the second day and the third day, nurses used non-pharmacology intervention, such as advise about coughing and breathing, advise and helping posture changes, and baby care. These interventions were pain control by decreasing small diameter fibers stimulation and cognitive control by distraction. Distraction directs a patient's attention to something else . It causes a pituitary response, which results in the release of endorphins. These are natural opiates that relieve pain (Coughlan, 1994: 35). Analgesics administration by nurses in this study showed that the majority of patients had to wait when they asked for pain medication was 21-30 minutes (Table 17). So, the patients had more pain experienced before taking pain medication. Sometimes the pain was not subsided rendering patients asking for changing or adding pain medication. This finding showed that the majority of patients had to wait when they asked for changing or adding pain medication was 1-2 hours (Table 29). This result may due to short duration of giving pain medication in the first time and the second time that rendered the nurses have to wait before giving repeated dose. In addition, this study showed that patients did not received pain medication when they asked for medication day on 1-3 after cesarean section (2.7%, 21.3%,and 13.9%, respectively) (Table 17). The nurses will give medication for patients when they ask for

medication. Patients' assessments do not always match the nurses' assessments of the patients' pain. These rendered management of pain was ineffective. The study by Seers (1987) indicated that nurses consistently underestimated the patients' pain. 77% of the time nurses and patients did not agree about the intensity of the pain, 54% of nurses rated the patient's pain at a lower level than the patient did, 13% rated it at a higher level than the patient. Similarly, study of Cohen (1980) found that some nurses and physicians had indicated that patients were received adequate analgesia, although the patients reported that their pain continued to be moderate.

Objective 4 : To identify the strategies use by women after cesarean section in the management of their pain.

This finding showed rating of patients that asked for pain medication following duration of operation (93%, 78.3%, and 35.8%, respectively). This is according to postoperative mechanism. The patients' reason that did not ask for changing or adding pain medication were unlike to bother anyone and fear of action of pain medication. Because the nature of Thai people were always respectful, avoiding to bother others and fear to blemish. These data indicated lacking of knowledge in pain management and interaction between nurses and patients. Study of Francke and Theeuwien (1994) found factors that associated with patient's inhibition in reporting pain as their insecurity , lack of assertiveness, and some suboptimal interactions with nurses. Relationship is importance conception of contributing trust and guideline to good relation between patients and nurses rendering effective pain management. Larson and others (1995: 274-275) asserted successful symptom



management occur relationship among patients, family, health care provider and healthcare system.

Pain management used the most often by the patients themselves on the 1, 2 days after cesarean section were asking for pain medication (93.3% and 78.3%, respectively) (Table 30). On the first 2 days after cesarean section, patients had severe pain experienced. So the most common pain management by the patients was asking for pain medication. Whereas, the second order of pain management by patients themselves were deep breathing, posture changes, touch on abdominal, and distraction by care baby. These finding are consistent with previous studies found pain management that patients used the most were posture changes to be comfort, deep slow breathing, and patting around wound (Kanoksunthornrut, 1992; Pattawee, 1998). Deep breathing is simple relaxation and enhance though concentration on a specific breathing pattern during contraction (Lowe, 1996: 89). In addition, relaxation decreased sympathetic response, muscle tension and perception about pain (McCaffery, 1979: 137). Posture changes to be comfort is by decreasing small diameter fiber activation that can relief pain. Touch on the abdominal is the stimulation of the skin to relieve pain. The gate control theory suggests that cutaneous stimulation activates large diameter fibers and decreases pain transmission through small diameter fibers. Synaptic gates close to the transmission of pain impulses (Donovan & Pierce, 1984: 248; Potter & Perry, 1995: 760-761). Pain management that patient used the least popular were praying or meditation, reading which sometime were not convenience because of the limitation of time and location. In addition, patients could not read because they had to care baby. This study found that

patients brought strategies of pain management to perform by the recommendation from physicians and nurses. So if physician and nurses give accurate information about pain management by using non-pharmacology interventions to patients. Management of pain will be more effective. These decreases cost of drug using and other expenses.

Objective 5 : To identify the satisfaction among women after cesarean section with the results of pain management in Rajvithi Hospital.

This study showed that on day1, 2, 3 after cesarean section, the patients had moderate satisfaction with the results of pain management by professional health providers. (mean score of 6.62, 5.45, and 5.01, respectively) and moderate satisfaction with the results of pain management by patients themselves. (mean score of 5.82, 5.45, and 5.83, respectively)(Table 20). Results of this study indicated that patients received inadequate pain management and rendering the pain persists. In this study showed that the average pain of patient was moderate level (Table 2). For the patients who did not received adequate analgesia there would appear to be defected link in the chain that involves the patient who experiences pain and ask for medication, the physician prescribing the analgesic drugs and the nurse who decides when to give administration analgesics. This also applies to these patients who receive analgesia, but its effect has not been evaluated, in addition patients' assessments do not always match the nurses' assessments of the patients' pain. Donabedian (1988: 1744) asserted that patient satisfaction with nursing care is one indicator of quality for patient care. These effects caused patients could not speak out about problems both positive and negative opinion expression during admitted at

hospital. So the results of satisfaction showed moderate level. Satisfaction with the results of pain management by patients themselves had moderate level that may due to patients lacked of correct information about pain management.

Limitations of this study

1. Data of this study was derived from patients' view actual.
2. The researcher control consistency and bias of collecting data by reading questionnaire to the patients and asked the patients to assess. These effect to error of data causing patient used restrict of time in answer questionnaire and respects the researcher.
3. Skin incision is done in vertical direction that may effect to pain in patients.

CHAPTER VI

CONCLUSIONS

In this chapter, the conclusions of the study will be presented first. The section will then be closed with the recommendations of the results for nursing practice, nursing education, and further nursing research.

Conclusions

This study is a descriptive research that determines about experience, interference from pain, pain management by physicians, nurses and patients themselves, and satisfaction with the results of pain management. Conceptual framework was adopted to guide in this study as symptom management wrote by Larson and others.

The study population were primigravidas women after cesarean section on 1-3 days who were admitted at postpartum wards of Rajvithi Hospital from December, 1998 to February, 1999. The study samples were selected by purposive method. The sample size was 120 subjects. Inclusion criteria of samples were 1) gestation age ranging from 37 weeks and above; 2) women after cesarean section not less than 24 hours; 3) ones were conscious, able to understand and speak Thai, and 4) consent to participate in this study.

Instruments of this study included 1) demographic data that included personal data and data about cesarean section; 2) pain questionnaire that was modified from pain questionnaire of Detroit Medical Center and Wayne State

University including severity of pain, pain interference with life style, pain management, and satisfaction with the results of pain management.

The content validity of instrument in Thai version was tested by five experts in this field. The reliability of questionnaire was tried out with twenty mothers after cesarean section who had similar characteristics. The reliability of the questionnaire of pain severity, pain interference, and satisfaction with the results of pain management were tested by using coefficient alpha method. The results of coefficient alpha of pain severity, pain interference, and satisfaction with the results of pain management were 0.77, 0.70, and 0.70, respectively. After researcher brought to repeated testing reliability in 120 cases who could meet criterias. The results of coefficient alpha of pain severity, pain interference, and satisfaction with the results of pain management were 0.81, 0.74, and 0.71, respectively.

The researcher collected data by giving patients answering the questionnaire. When the questionnaire was completed, data was analyzed on the computer by using Statistical Package for the Social Sciences for Windows (SPSS/FW). The results of this study, the following conclusion are drawn.

The most of subjects had age ranging from 18-36 years old ($M=26.11$, $SD=4.56$). 95 percent of all subjects were Buddhist. 55.8 percent of all subjects finished primary school. 45.8 percent of all subjects are employee. 35 percent of all subjects had average family income in the range of 10,000-14,999 bath/month. Data about cesarean section found the gestation of all subjects were between 37-40 weeks ($M=38.17$, $SD= 0.86$). The abdominal incision of 57.5 percent were low vertical incision. Indication of cesarean section of 76.7 percent were CPD. The most of time

that used in cesarean section was 61-90 minutes. Type of anesthesia that used in cesarean section were general anesthesia of 66.7 percent.

Comparison of kind of pain severity including existing pain, the worst pain, the least pain, and the average pain on 1-3 days after cesarean section following for perception of subjects showed statistically significant differences ($p < .001$). The existing pain, the worst pain, and the average pain on the first day had higher mean scores than the second and the third days, and there were higher mean scores on the second day than those of the third day. However, the least pain on the second day had higher mean scores than the first and the third days. But, there were no statistically significant differences in the least pain scores between the first day and the third day.

Comparison of all kind of pain's interference on 1-3 days showed statistically significant differences ($p < .001$). Pain's interference with baby care, general activities, walking or movement, mood, relationship with others, and coughing and deep breathing on the first day had higher mean scores than the second and the third days, and the second day had higher mean scores than the third day whereas, pain's interference with sleeping on the second day had higher mean scores than the first and the third days. However, there were no statistically significant differences in pain's interference with sleeping scores between the first day and the second day.

The pain management used most often by the physicians on the first day after cesarean section was order pain medication (51.7%), on the second and the third day were paying attention to patients' pain (46.7%).

The pain management was used most often by the nurses on the first day after cesarean section was giving pain medication to patients (63.3%), on the second and the third day were advising about correct breathing (33.3% and 32.5%, respectively). The duration that the most of patients had to wait medication administration of nurses when they asked for pain medication was 21-30 minutes. When pain did not relieve after taking medication, patients had to wait until they asked for changing or adding pain medication on the first and the second day was 1-2 hours. On the third day, it was found that nobody asking for changing or adding pain medication.

The pain management used most often by patients themselves on the first day and second day were asking for pain medication (93.3% and 78.3%, respectively), whereas on the third day was touch on the abdominal (50%). On the 1-3 days after cesarean section, patients asked for pain medication from nurses were 93.3 percent, 78.3 percent, and 35.8 percent, respectively. When pain did not relieve after taking medication, patients asked for changing or adding pain medication on the first and second day were 22.5 percent and 2.5 percent, respectively, whereas on the third day it was found that nobody asked for changing or adding pain medication. The patients' reason on not asking for changing or adding pain medication was afraid of effects of pain medication to danger with baby (51.7%).

Patients reported moderate satisfaction with the results of pain management by professional health providers and patients themselves.

RECOMMENDATIONS

Nursing practice

1. The results of this study indicated that patients had severe pain experience. This results indicate that pain management in women after cesarean section is ineffectiveness. Nurses should be aware of the importance to assess pain including nonverbal and verbal assessment. Nurses should assess patient about level of pain, the factors which increased pain, and readiness of patient in performing activities. In addition, effective pain management should be set the destination among patient, professional health providers, patient's family.

2. Nurses should contact with patients to make a trust of patient , confidence, and assertive to asking for helping from nurses.

3. The results of this study showed that patients had severe pain experience that interfered moderate to high with life style of patients. So, nurses should understand and help in performing activities of patients. In particular, primigravidas women after cesarean section with no experience that caused fear and stress rendering activated the pain threshold.

4. The results of this study, the patients reported moderate satisfaction with the results of pain management by patient themselves. Nurses should enhance and educate patient about pain management to accomplish the effectiveness of pain management.

5. Nurses and members of health care team should promote participation in uniform guidance to pain assessment, pain management, evaluation of pain management.

Nursing education

1. The results of this study can be applied for nursing educators, thus help the student to be aware of the importance of holistic care .

2. Nursing educators should be provided for student to be aware of the importance of adequate assessing the patients' pain, pain's interference and pain management. In addition, finding of this study can help the nursing educators to improve training experience in caring women after cesarean section for students.

Further nursing research

1. To study about standard scores of pain, pain's interference, satisfaction with the results of pain management in Thai women after cesarean section.

2. To study about the effect of non-pharmacological interventions in women after cesarean section.

3. To study about patients' versus nurses' assessments of pain and pain management after cesarean section.

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APPENDIX A

Human Rights for Research Population

To whom it may be concerned

I am “ Chayaporn Waiyanetta” a graduate nursing student in the Ramathibodi School of Nursing, Mahidol University. I am interested in research study about pain experience and pain management in women after cesarean section. The research will be beneficial to promote women health and improve quality of nursing care. There are unknown risks to participate in this study. However, your participation is voluntary, you have the right to participate or not. It will not affect you in any way. If you agree to participate, you will be asked to complete the pain questionnaire. It will take you about 10-15 minutes. If you have any question about the questionnaire, I would be glad to explain them to you. All of your responses and the information will not be revealed. If you would not like to participate in this research study, you can refuse as your require. Thank for your cooperation, if you agree to participate, please sign this form.

Chayaporn Waiyanetta

researcher

I am willing to participate in this study.

Signature.....

APPENDIX B

INSTRUMENTATION

Part I : Demographic Data Form

Subject no.....Questionnaire noH.N.....

Date.....Time.....Ward.....

Personal data

1. Age.....years old
2. Religion
 - (1) Buddhist
 - (2) Christian
 - (3) Islam
 - (4) Others
3. Education
 - (1) Primary school
 - (2) Secondary school
 - (3) Associate degree
 - (4) Bachelor degree / above

Part II Pain questionnaire

1. Have you experienced any pain in the last 24 hours?

(1) Yes

(2) No

2. How much pain are you having right now?

0	1	2	3	4	5	6	7	8	9	10
no					moderate					worst pain
pain					pain					possible

3. What is the worst pain you have had in the last 24 hours?

0	1	2	3	4	5	6	7	8	9	10
no					moderate					worst pain
pain					pain					possible

22. What did you have method in your pain management.

(1) To report physician or nurse.

(2) To ask for pain medication.

(3) To breathe deeply.

(4) To change position.

(5) To touch on abdominal.

(6) To read magazine.

(7) To pray or meditation.

(8) Other, please specify.....

APPENDIX C

List of Expert for Questionnaire Validity

For fitting the conceptual definition and method of measurement, the content validity of the questionnaires were determined by five consulting experts included:

1. Professor Dr. Somchit Hanuchareonkul
Department of Nursing, Faculty of Medicine, Ramathibodi Hospital,
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2. Associate Professor Sarikapan Wilailuk
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5. Mister Tosaporn Reungkit
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BIOGRAPHY

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INSTITUTIONS ATTENDED Boromarajonani College of Nursing, Bangkok,
1989-1993 : Diploma in Nursing
Mahidol University, 1997-1999:
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Position: Registered Nurse 5