

**THE EFFECTS OF NURSING SUPPORT DURING LABOR ON
LABOR PAIN COPING BEHAVIORS AND THE PERCEPTION
OF CHILDBIRTH EXPERIENCE OF FIRST-TIME MOTHERS**

The seal of Mahidol University is a circular emblem. It features a central blue circle containing a golden chedi (a traditional Thai Buddhist stupa) with intricate carvings. Above the chedi is a small flame-like symbol. The entire central design is set against a light blue background. Surrounding this is a wide yellow ring containing Thai script in a stylized font. The outermost ring is white with a thin yellow border.

WIPARAT SODSONG

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF NURSING SCIENCE
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Thesis

Entitled

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OF CHILDBIRTH EXPERIENCE OF FIRST-TIME MOTHERS**



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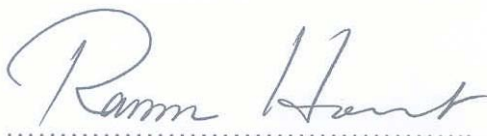
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ABSTRACT

The purpose of this quasi-experimental research was to determine the effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience of first-time mothers. Lazarus and Folkman's stress, appraisal, and coping theory was used as the conceptual framework for this study. Purposive sampling was used to select 60 laboring women who were admitted to and delivered a baby in the labor and delivery unit at Ramathibodi Hospital, between May and October 2004. The sample was divided into a control group and an experimental group, with 30 subjects in each group. The experimental group received both nursing support during labor and the usual nursing care, whereas the control group received only the usual nursing care. Data were collected by using three questionnaires; a demographic data questionnaire, a labor pain coping behavior observation form, and a perception of childbirth experience questionnaire. Data were analyzed by the SPSS/FW program.

The results of this study revealed that the mean score of labor pain coping behavior in the experimental group was significantly higher than that of the control group ($p < .001$) but there was no statistically significant difference in the perception of childbirth experience between the two groups ($p > .05$).

As a result of the study, the researcher suggests that use of nursing support during labor can assist laboring women in coping with difficult situations during labor and delivery. The study showed that nursing support during labor is an effective method for helping mothers deal with labor pain and is a method that nurses can perform independently.

KEY WORDS: NURSING SUPPORT DURING LABOR/ LABOR PAIN COPING
BEHAVIOR/ PERCEPTION OF CHILDBIRTH EXPERIENCE

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ผลของการพยาบาลแบบสนับสนุนระดับประคองในระยะคลอด ต่อพฤติกรรมการเผชิญความเจ็บปวด และการรับรู้เกี่ยวกับประสบการณ์การคลอดของมารดาครรภ์แรก (THE EFFECTS OF NURSING SUPPORT DURING LABOR ON LABOR PAIN COPING BEHAVIORS AND THE PERCEPTION OF CHILDBIRTH EXPERIENCE OF FIRST-TIME MOTHERS)

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บทคัดย่อ

การวิจัยกึ่งทดลองนี้ มีวัตถุประสงค์เพื่อศึกษาผลของการพยาบาลแบบสนับสนุนระดับประคองในระยะคลอด ต่อพฤติกรรมการเผชิญความเจ็บปวดและการรับรู้เกี่ยวกับประสบการณ์การคลอดของมารดาครรภ์แรก โดยใช้ทฤษฎีความเครียดของลาซารัสและโพล์คแมนเป็นกรอบแนวคิด เลือกกลุ่มตัวอย่างตามคุณสมบัติที่กำหนด เป็นหญิงครรภ์แรกที่มาฝากครรภ์และคลอดที่โรงพยาบาลรามารับดี ระหว่างเดือนพฤษภาคม ถึงเดือนตุลาคม พ.ศ. 2547 จำนวน 60 ราย แบ่งเป็นกลุ่มควบคุม 30 รายและกลุ่มทดลอง 30 ราย กลุ่มทดลองได้รับการพยาบาลแบบสนับสนุนระดับประคองในระยะคลอดและการพยาบาลตามปกติ ในขณะที่กลุ่มควบคุมได้รับการพยาบาลตามปกติ ผู้วิจัยเก็บรวบรวมข้อมูลโดยใช้แบบบันทึกข้อมูลเกี่ยวกับการคลอด แบบสังเกตพฤติกรรมการเผชิญความเจ็บปวดในระยะคลอด และแบบสอบถามการรับรู้เกี่ยวกับประสบการณ์การคลอด วิเคราะห์ข้อมูลสถิติด้วยโปรแกรม SPSS/FW

ผลการวิจัยพบว่า ค่าคะแนนเฉลี่ยพฤติกรรมการเผชิญความเจ็บปวดในระยะคลอดของมารดาครรภ์แรกกลุ่มทดลองสูงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติที่ระดับ .001 ส่วนค่าคะแนนเฉลี่ยการรับรู้เกี่ยวกับประสบการณ์การคลอดของมารดาครรภ์แรกกลุ่มทดลองสูงกว่ากลุ่มควบคุมอย่างไม่มีนัยสำคัญทางสถิติที่ระดับ .05 ดังนั้นผู้วิจัยเสนอแนะว่า การใช้โปรแกรมการพยาบาลแบบสนับสนุนระดับประคองในระยะคลอดที่เหมาะสมจะส่งผลให้ผู้คลอด มีพฤติกรรมการเผชิญความเจ็บปวดในระยะคลอดที่ดี มีการรับรู้เกี่ยวกับประสบการณ์การคลอดที่ดี ซึ่งการให้การพยาบาลแบบสนับสนุนระดับประคองในระยะคลอดนี้ เป็นบทบาทอิสระอย่างหนึ่งที่พยาบาลสามารถปฏิบัติได้โดยไม่ต้องรอคำสั่งจากแพทย์ผู้ให้การรักษา

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CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
ABSTRACT (ENGLISH)	iv
ABSTRACT (THAI)	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER	
I INTRODUCTION	1
Background and Significance of the study	1
Theoretical Framework	5
Research Questions	9
Objectives of the Research	9
Research Hypotheses	10
Scope of the Study	10
Expected Outcomes and Benefits	10
Definition of Terms	10
II LITERATURE REVIEW	
Stages and Phases of Labor	13
Concept of Coping	15
Concept of Pain	17
Pain during labor	19
Pain relief technique in labor	22
Labor pain coping behavior	30
Perceptions of childbirth experience	32
Nursing support during labor	37
Effects of nursing support during labor on labor pain coping behavior and perception of childbirth experience	44

CONTENTS (CONTS.)

CHAPTER	Page
III METHODOLOGY	
Population and Sample	46
Setting	47
Instrumentation	48
Protection of Subjects' Human Rights	52
Data Collection	52
Data Analysis	57
IV RESULTS	58
V DISCUSSION	67
VI CONCLUSION	73
BIBLIOGRAPHY	77
APPENDIX	86
BIOGRAPHY	100

LIST OF TABLES

	Page
Table 1 Frequency, percent, range, mean, standard deviation, median, and mode of the samples' characteristics (n = 60)	59
Table 2 Comparisons of samples' characteristics by grouped t-test (n = 60)	61
Table 3 Comparison of samples' characteristics by Chi-square test (n = 60)	62
Table 4 Mean, standard deviation and duration of first stage, second stage and third stage of labor	63
Table 5 Range and mean of score of labor pain coping behavior	64
Table 6 Comparison of samples' labor pain coping behavior mean score between control group and experimental group by using grouped t-test (n = 60)	64
Table 7 Comparison of samples' perception of childbirth experience mean score between control group and experimental group by using grouped t-test (n = 60)	65

LIST OF FIGURES

		Page
Figure 1	Theoretical framework for this study	8
Figure 2	The relations of the variables in this research	9
Figure 3	Slow-paced breathing	26
Figure 4	Modified-paced breathing	26
Figure 5	Combining techniques	27
Figure 6	Patterned-paced breathing	27
Figure 7	Perception process	33
Figure 8	Process of collecting data	56

CHAPTER I

INTRODUCTION

Background and Significance of the Study

Childbirth is a developmental task, because it brings physiological, psychological, and social changes to the women (Jensen & Bobak, 1993: 453; Sherwen, Scoloveno & Weingarten, 1991: 98). Littleton and Engebretson (2002: 678) state that childbirth is the process in which the fetus, placenta, and membranes are expelled through the uterus. This process is an exciting and anxious time for a woman and her significant others (support persons, family) (Lowdermilk, Perry & Bobak, 1999: 348), a natural phenomenon for humans, and therefore not considered to be a sickness.

Physiological changes in childbirth include the contraction of the uterus, and the cervix softening and opening. The fetus descends through the pelvis and the mother helps push the fetus in to the world (Gennaro, 1988: 234-245). This process can be divided into four stages (Murray, McKinney & Gorrie, 2002: 275-280). The first stage begins with the cervical opening and ends with complete dilation of the cervix. This first stage of labor is composed of three phases: latent, active, and transition phase. The second stage begins with complete dilation and full effacement of the cervix and ends with the birth of the baby. The third stage begins with the birth of the baby and ends with the expulsion of the placenta. The fourth stage of labor is the stage of physical recovery for the mother and the baby. It lasts from the delivery of the placenta through the first one to two hours after birth.

Childbirth brings psychological changes in the women. During labor, many women develop anxiety and fear concerning injury of the fetus and themselves during labor and birth; fear of the institutional producer, fear of pain, and fear of impending irreversible lifestyle changes created by the birth of the baby (Gail, 1993: 223-236). Anxiety or fear can increase a women's sensitivity to pain and reduce their ability to tolerate it. This phenomenon, called "fear-tension-pain syndrome", was identified by Dick-Read (1930, cited in Peggy-Ann, 1977: 77). He believed that most women

approach labor with fear and anxiety because of ignorance, prejudice, and misinformation. The result is mental tension which, in turn, leads to tension in muscles including those of the lower uterine segment. Tension of these muscles causes pain and can delay labor. Additionally, excessive anxiety increases the secretion of catecholamines, which reduces blood flow to and from the placenta, restricts fetal oxygen supply and waste removal, reduces effectiveness of uterine contractions and slows the labor progress (Thompson, 1995: 57). Therefore, prolonged labor as a consequence of anxiety becomes the main reason for delivery with obstetric operation (forceps extraction and vacuum extraction) or cesarean section. These kinds of deliveries can create more complications such as postpartum hemorrhage or fetal birth asphyxia. Pregnant women who cannot tolerate labor pain may not be able to control themselves and express erratic behaviors during labor period (Reeder & Martin, 1987: 502). In addition, severe labor pain may produce serious long-term emotional disturbances, which may impair the patient's mental health. This situation may negatively influence the relationship with her baby during the first few crucial days and may create fears of future pregnancy. Moreover, it may seriously affect her sexual relationship with her husband (Nettelblade et al., 1976 cited by Wall & Melzack, 1989: 490). Most of the first-time mothers who have never been through labor, may have misunderstandings and be nervous and fearful about the experience of giving birth. Moreover, the hospitalization, which takes them away from their families, can increase stress and contribute to these feelings.

Childbirth also brings social changes. A woman's cultural and individual values influence how she views and copes with childbirth. Culture also influences how the woman behaves during labor (Thompson, 1995: 68). Also, the quality of support during labor, whether offered by a partner, other family members, friends, or nursing personnel has a tremendous impact on a woman's perception and ability to cope with labor (Creehan, 1996: 230-235).

During labor, most women have pain (Thompson, 1995: 73). Most pain during labor results from the normal physical process of labor. The dilation and stretching of the cervix, reduced uterine blood supply during contractions, pressure of the uterus on pelvic structures and stretching of the vagina and perineum are physical causes of labor pain (Thompson, 1995: 73). Fear and anxiety can cause additional pain. As fear

and anxiety heighten, muscle tension increases, inhibiting the effectiveness of contractions and increasing the experience of pain (Creehan, 1996: 230-235). If she can not tolerate the level of pain, she will ask for medication to relieve pain in childbirth.

Many studies show that medication is not always appropriately used during childbirth. This may result in several side effects for the mother including vertigo, nausea and vomiting, decreased blood pressure, and may also result in side effects for the baby including possible central nervous system depression or apnea (Edelman & Mandle, 1980: 125).

In addition, misinformation about labor may lead pregnant women without any complications to request cesarean section (Yan & Xu, 1994: 581-583). It was report that most Chinese nulliparous women had positive attitudes toward having cesarean sections because they believed that cesarean section would be safe for the baby, safe for themselves by releasing them from fear of childbirth, reducing prelabor anxiety and labor pain, thereby making childbirth satisfaction (Yan & Xu, 1994: 581-583). A survey in Shanghai found that more than half of the subjects who intended to have cesarean section had no medical or obstetrical indications for cesarean section (Yan & Xu, 1994: 581-583).

Lazarus's (1993: 1-21) cognitive theory of stress and coping is the theoretical framework for this research study with a focus on social support as an environmental coping resource. The Lazarus model proposes three categories of social support: emotional support (attaching, reassuring, giving the feeling that one is able to rely on or confide in a person, giving the feeling that one is cared about); informational support (providing information or advice and giving feedback); and tangible support (direct aid, such as taking care of someone or doing a job). Tangible help and information may provide emotional support when they are perceived as given freely and with care (Bryanton, Fraser-Davey & Sullivan, 1994: 638-639).

If the laboring women receive quality support during labor, whether offered by a partner, other family members, friends, or nursing personnel, they will have comprehensive childbirth knowledge, and can apply this knowledge during labor in order to practice self-help measures to cope with labor effectively. Increase knowledge and support can reduce anxiety and fear of the unknown, decrease their

desire to have cesarean section and increase their confidence about their ability to cope with labor pain and have good experiences in childbirth. Women with quality support report less pain during labor than women who lack this support and confidence (Lowe, 1996: 82-92).

At this time, public hospitals in Thailand do not allow husbands or relatives to be with laboring women during the labor and delivery period. A laboring woman is separated from her beloved husband and family and enters an unfamiliar environment in hospital (Clark et al., 1979: 351). So, that “the laboring women felt lonely to cope with pain during labor and they felt isolated and abandoned” (Clark et al., 1979: 354). Fear and anxiety grow to higher levels, leading to increased levels of catecholamine and epinephrine, which in turn leads to poor efficiency in uterine contractions and prolonged labor (Simpson & Creehan, 1996: 229). The end result is a long period of suffering and a reduced pain tolerance. Some laboring women who received oxytocin intravenous drips will experience even more pain, and if they don't received appropriate support during labor, it will decrease their ability to cope with pain and to control themselves (Meinhart & McCaffery, 1983: 248-250; Read, 1984: 200). Finally, they may lose self-control (Roberts, 1983: 62-63), and receive unnecessary sedatives or analgesic agents resulting in more obstetric procedures or cesarean sections.

The researcher has five years experience in caring for laboring women and found that health professionals and nurses who are closely in contact with laboring women are a key element for achieving satisfaction with care. Research suggests that nursing care during labor should include creating a safe environment where a positive and satisfying childbirth experience can occur (DiMatteo, Kahn & Berry, 1993: 204-211; Evans & Jeffrey, 1995: 235-239; McNivan, Hodnett & O'Brien - Pallas, 1992: 3-8; Nicholes, 1996: 71-77; Tomlinson & Bryan, 1996: 331-337). Support during childbirth also has been linked to numerous positive psychological effects for the mother. Hofmeyr et al., (1991: 756-764) found that the laboring women who received one-to-one continuous labor support found mothering easier and viewed their infants as less fussy (Manning-Orenstein, 1998: 73-81). The study of Hodnett and Osborn (1989: 289-297); Langer et al., (1998: 1056-1063) found that the mothers who were supported during labor had a greater perception of control and more positive feelings

about their labor than the mothers who were not supported. Similarly, the study of Callister (1993: 288-293) found that the mothers who received nursing support during labor: emotional, informational, and tangible support can influence perceived outcomes, and the contributions of caring nurses are of vital importance in enhancing a woman's coping efforts.

Thus, the researcher was interested in studying the effects of nursing support during labor on labor pain coping behaviors and the perception of the childbirth experience of first-time mothers. This study compares the experience of first-time mothers (the experimental group) who receive nursing support during labor along with the usual nursing care, to the experience of first-time mothers (the control group) who receive only the usual nursing care. It is hoped that this research will enhance nursing support during labor and guide nurses in appropriately caring for the laboring women, leading to good labor pain coping behaviors and positive perceptions of childbirth experience in order to bring mastery in motherhood.

Theoretical Framework

In this research, the stress, appraisal and coping method of Lazarus and Folkman (1984: 117-130) was employed. This framework stated that the interactions between the individual and the environment influence each other. Stress is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being. Coping is determined by cognitive appraisal and refers to the purpose a strategy serves to manage stressors that are appraised by an individual as taxing or exceeding his or her resources.

Cognitive appraisal is the process of categorizing an encounter, and its various facets, with respect to its significance for well-being (Lazarus & Folkman, 1984: 31-38). Three kinds of cognitive appraisal have been identified:

- 1. Primary appraisal** is largely evaluative, focused on meaning or significance, and takes place continuously during an individual's waking life. When an encounter with the environment carries no implications for a person's well-being, it falls within the category of irrelevant. If the outcome of an encounter is construed as positive, benign - positive appraisals occur. Stress appraisals include harm/loss, threat, and challenge. Harm/loss refers to some damage the person has already been

sustained. Threat refers to anticipated harm/loss, and challenge refers to events that hold the possibility for mastery or gain.

2. Secondary appraisal. This term gives no hint about the context of each form of appraisal. When we are in jeopardy, whether it be a threat or a challenge, something must be done to manage the situation. In addition, the appraisal of coping options includes an evaluation of the consequences of using a particular strategy or set of strategies vis-a-vis other internal and/or external demands that might be occurring simultaneously.

3. Reappraisal refers to a change in appraisal based on new information from the environment and/or the person to attenuate a stress that could change the interaction between the person and the environment. Reappraisal differs from appraisal only in that it occurs after an earlier appraisal.

Childbirth is a situation encountered by women who must cope with the labor. They will evaluate their primary appraisals in terms of their well-being, such as irrelevant, benign-positive, or stressful (Lazarus & Folkman, 1984: 32-38). Stress appraisals include harm/loss, threat, and challenge (Lazarus & Folkman, 1984: 53).

Whatever is appraised as a threat, harmful, or challenging will create stress. After laboring women realize that their well-being is affected, they will handle the situation by taxing or exceeding their resources. The next form of evaluation is secondary appraisal. This stage is crucial because they use this appraisal to select their available options and resources.

The laboring women will appraise the type or severity of a stressful event using two factors; personal and situational factors. Personal factors are commitments, beliefs, and intellectual knowledge. Situational factors include the novelty, predictability, and uncertainty of events. First-time mothers who have never experienced childbirth cannot predict the sequence of events, and may feel uncertainty, fear, and confusion, or operate with a restricted perception of person and environments. In this situation, a laboring woman will exceed her resources to cope with stress. This results in anxiety and turns the birth into a more unpredictable process because the laboring women cannot determine a final resolution. Two major kinds of coping (Lazarus & Folkman, 1984: 150-153) are emotion-focused coping and problem-focused coping. There are ways to adjust emotions and lessen stresses for

handling problems effectively. Lazarus and Folkman (1984: 159-164) suggested that the person who chooses an appropriate strategy to manage a situation can cope with a problem effectively. It depends on the resources that are available to them, arising from personal or environmental agendas. These include health and energy, positive beliefs, problem solving skills, social skills, social support and material resources. The laboring woman will increase options to solve and cope with problems if she is healthy, confident, reasonable, well-informed, and receives social support. Indeed, there are individual differences in each laboring women. The resources for coping must be recognized in the context of personal and environmental constraints, especially the level of threat.

A situation such as childbirth or being hospitalized separates laboring women from their families; the major source of social support. This results in decreased coping resources from their environment. Thus, a nurse plays a crucial social support role during labor and birth. The essential aims of nursing care for these laboring women are high quality actions to achieve good physical, psychological, emotional, and social responses. These activities include nursing care to respond to physical problems, to maintain information about the patient's unit, to provide physical care and a clean and safe environment, to manage and monitor progress of labor, nursing practice etc.

In this study, the researcher used social support according to Schaefer, Coyne, and Lazarus (1982: 381 cited by Lazarus & Folkman, 1984: 250). This support is comprised of three subconcepts: emotional support, tangible support, and informational support. First, emotional support refers to attachment, reassurance, being able to rely on and confide in a person which contributes to the feeling that one is loved or cared about, or even that one is a member of the group, not a stranger. Second, tangible support involves direct aid or services, including loans, gifts, and actions such as taking care of needy persons or doing a chore for them. Third, informational support includes providing information or advice, and giving feedback about how a person is doing. Together, these supports help patients confront their stresses constructively.

When the environment and perception are changed, the laboring woman will reappraise the situation and alter their decisions based on the new information from

either persons or environment (Lazarus & Folkman, 1984: 38). This causes two types of feedback: realization of new information and reappraisal of the situation. Therefore, the woman who receives nursing support during labor should have ability to confront the situation of labor well, cope with labor pain, and have a good childbirth experience.

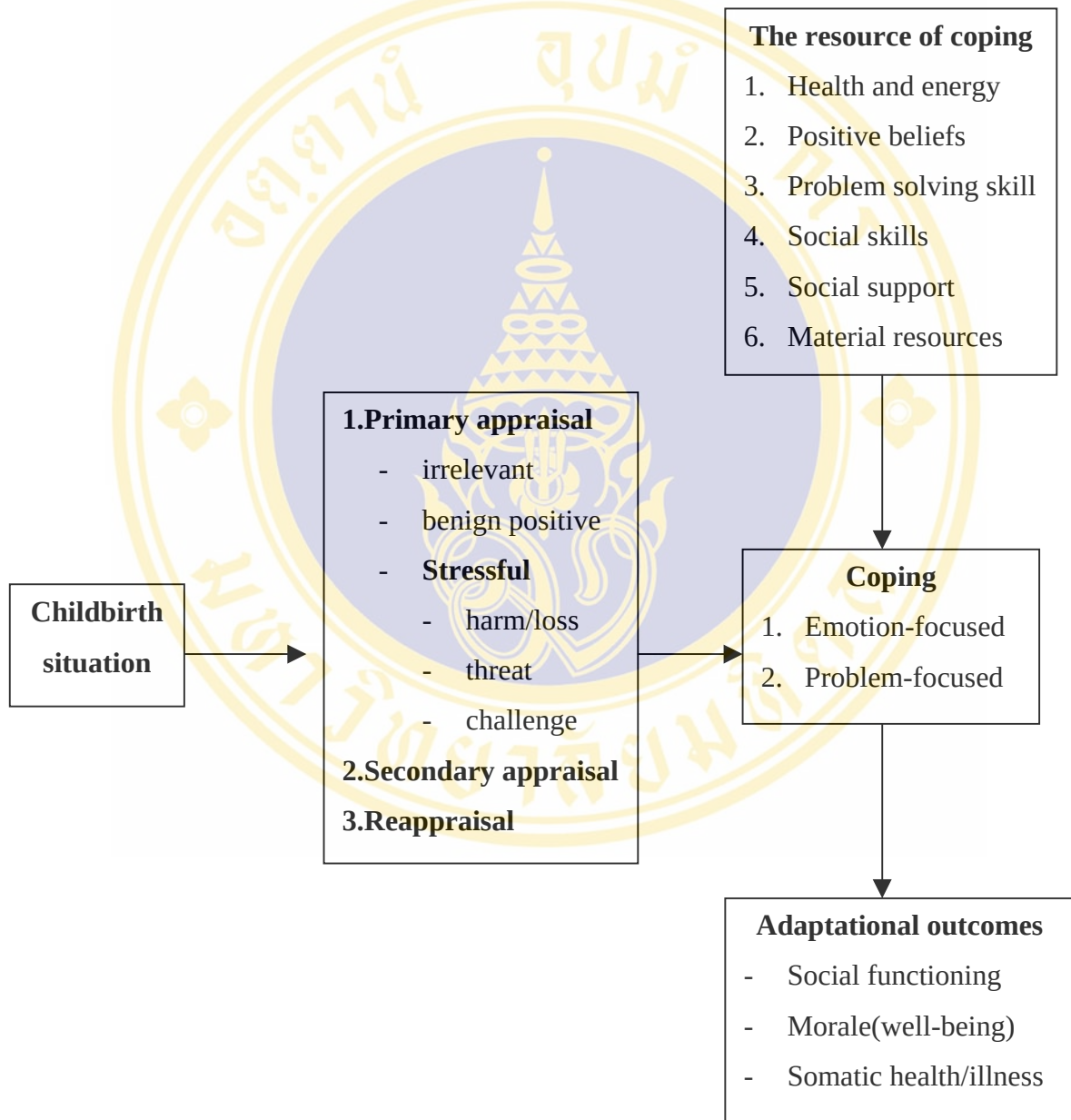


Figure 1: Theoretical framework for this study

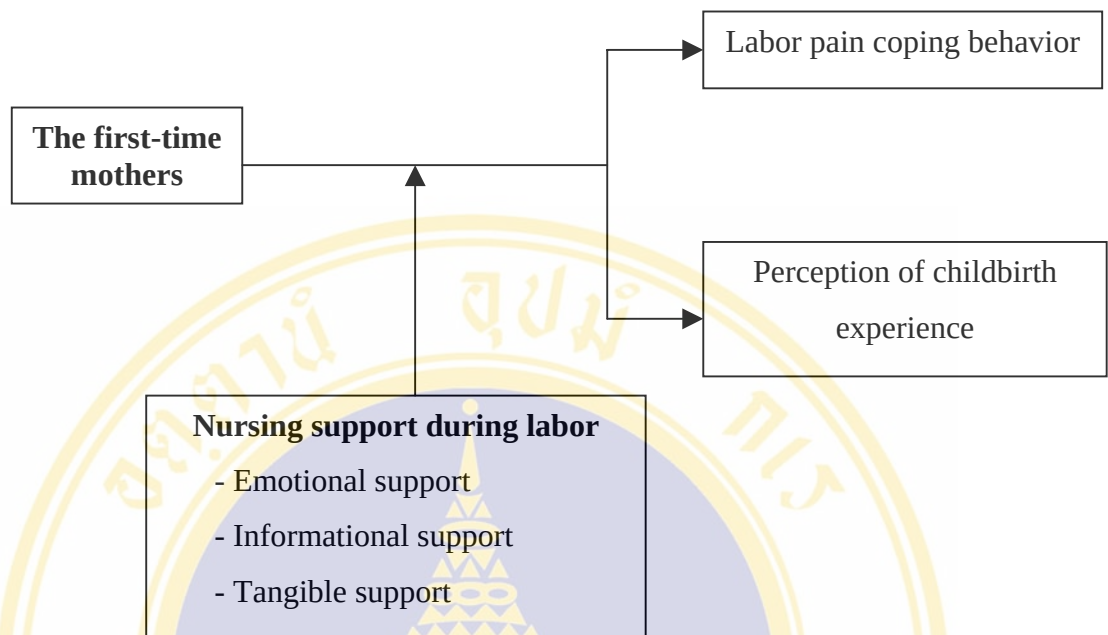


Figure 2: The relations of the variables in this research

Research Questions

1. What are the effects of nursing support during labor on the labor pain coping behaviors and the perception of childbirth experience of first-time mothers?
2. Does nursing support during labor enhance good labor pain coping behavior and positive perception of childbirth experience of first-time mothers?

Objectives of the Research

1. To compare labor pain coping behavior of first-time mothers between the experimental group who received nursing support during labor program together with the usual nursing care, and the control group who received only the usual nursing care.
2. To compare perceptions of childbirth experience of first-time mothers between the experimental group who received nursing support during labor program together with the usual nursing care and the control group who received only the usual nursing care.

Research Hypotheses

1. The first-time mothers who receive nursing support during labor program together with the usual nursing care will have better labor pain coping behaviors than that who receive only the usual nursing care.
2. The first-time mothers who receive nursing support during labor program together with the usual nursing care will have better perceptions of childbirth experience than that who receive only the usual nursing care.

Scope of the Study

This study was a quasi-experimental research to study the effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience of first-time mothers. This program included emotional support, informational support, and tangible support. The subjects received antenatal care and delivered at the Labor and Delivery unit, Department of Obstetrics-Gynecology, Faculty of Medicine, Ramathibodi Hospital, during May to October 2004.

Expected Outcome and Benefits

1. In nursing service, the results of this study can be used as the guidelines for nurses in using nursing support during labor to enhance pain coping behaviors during labor and improve the perception of childbirth experience of first-time mothers.
2. In nursing education, the results of this study can be used as the guidelines for teaching nursing students how to use nursing support during labor to enhance pain coping behavior during labor and improve the perception of childbirth experience of first-time mothers.
3. The results of this study can be used as guidelines for further studies of the nursing support during labor to enhance pain coping behaviors during labor and improve the perception of childbirth experience in other groups of mothers.

Definition of Terms

Nursing support during labor means nursing activities for first-time mothers including emotional support, informational support, and tangible support (physical

comfort and safety support). All these forms of support are based on Schaefer, Lazarus & Folkman's conceptualization of support, which was developed as a practice guideline by the researcher.

- **Emotional support.** Including establishing relationships, physical presence and words of affirmation, reassurance, encouragement, praise, active listening, staying nearby, acting as a friend, using touch and soft voice communication, encouraging the patient to focus on deep breathing and relaxation during contractions.

- **Informational support.** Including information about the setting and personnel roles, outlining the progress of labor using a flip-chart; explaining hospital routines, making sure the laboring woman is aware of what is happening during labor, offering techniques to cope with labor pain during labor and delivery; helping with techniques relaxation, providing cutaneous stimulation, and demonstrating breathing techniques.

- **Tangible support (physical comfort and safety support)** including providing physical care; helping to empty the bladder, helping with personal hygiene, offering massage and reassuring touch, helping with the positioning for woman's comfort, assisting with ambulation, helping in and out of bed; walking in hall; walking to bathroom, reducing environmental stimuli, coaching with breathing and suggesting techniques to promote relaxation or comfort.

Labor pain coping behavior is defined as actions or expression of pregnant women in response to labor pain. It is assessed by using the "labor pain coping behavior observation form" of Sukpinush Sankasuwan (B.E.2543: 52-53), which was modified from the Labor Pain Coping Behavior Observation Form of Chavee Baosoung (B.E.2526: 113-114) developed based on Sterrock's labor pain coping scale (1972). This observation form is used to observe maternal behavior in six aspects: facial expression, vocalization, tone of voice, body movement, relaxation level, and breathing control. The possible total scores ranged from 7 to 21. High scores indicate good labor pain coping behavior, whereas low scores indicate poor labor pain coping behavior.

Perception of childbirth experience is defined as the sense or opinion of the laboring women on the every situation during the labor stages, as well as self-control

capacity, skills to reduce pain, pain sensations, anxiety level, fear of labor and delivery, fetus condition, and satisfaction with labor, including the ability to recall labor and to talk about it to other persons. It is assessed by using “the Perception of Childbirth Experience Questionnaire” of Sukpinush Sankasuwan (B.E.2543: 53-54). It was modified from the Perception of Childbirth Experience Interview Form of Yaowalak Serisathien (B.E.2530: 86-89) which was developed based on Marut and Mercer’s concept (1979: 260-266). The questionnaire asks a mother’s feelings about labor and delivery. It is composed of 26 items: 16 positive and 10 negative items. The total possible scores are ranged from 26 to 130. High scores indicate positive perception of childbirth experience, whereas low scores indicate negative perception of childbirth experience.

Usual nursing care refers to the nursing activities which provide daily care to the laboring women by staff nurse in the labor and delivery unit. The activities include assesses physical health of a laboring woman and her fetus, assesses progress of labor by doing vaginal examination and monitor uterine contractions.

CHAPTER II

LITERATURE REVIEW

This is a quasi-experimental research to determine the effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience of first-time mothers. The literature review covers the following topics:

- Stages and Phases of Labor
- Concepts of Coping
- Concepts of Pain
 - Pain during labor
 - Pain relief techniques in labor
 - Labor pain coping behaviors
- Perceptions of the childbirth experience
- Nursing support during labor
- Effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience

Stages and Phases of Labor

Labor is the process whereby the fetus, placenta, and membranes are expelled through the uterus (Littleton & Engebretson, 2002: 678). This process is an exciting and anxious time for a woman and her significant others (support persons, family) (Lowdermilk, Perry & Bobak, 1999: 348). The process of labor is divided into four stages (Murray, McKinney & Gorrie, 2002: 275-280).

The First Stage of Labor

The first stage of labor, or stage of dilation, begins with the onset of true labor contractions and ends with complete dilation (10 cm) and effacement (100 %) of the cervix. It is the longest stage for both nulliparous and parous women. The duration of first stage of labor averages 8 to 10 hours for the nullipara and 6 to 7 hours for the parous woman. When active labor begins, the cervix of the nullipara woman usually

dilates about 1.2 cm per hour and that of the multipara woman dilates about 1.5 cm per hour. The first stage of labor differs from the other stages because it has three phases: latent (early), active, and transition phase.

1. Latent phase. The latent phase is the first 3 cm of cervical dilation. Its length varies among women but averages 8.6 hours for the nullipara and 5.3 hours for the multipara woman. Latent labor may be quite long and much of it may pass unnoticed by the pregnant woman. Cervical effacement and fetal positional change occur during latent phase, preparing for the more rapid changes of active labor. Contractions gradually increase in frequency, duration, and intensity. The interval between contractions shortens until contractions are about 5 minutes apart as the woman progresses to the active phase. Duration of contractions increases to 30 to 40 seconds by the end of the latent phase. Intensity begins with mild contractions.

2. Active phase. The active phase of labor is so named because the pace of labor increases. The cervix dilates from 4 to 7 cm and at a more rapid rate than in the latent phase. The duration averages 4.6 hours for the nullipara and 2.4 hours for the multipara woman. Effacement of the cervix is completed. The fetus descends in the pelvis, and internal rotation begins. Contractions average 2 to 5 minutes apart, with a duration of about 40 to 60 seconds, and ranging from moderate to strong intensity.

3. Transition phase. The cervix dilates from 8 to 10 cm, and the fetus descends further into the pelvis. Bloody show often increases with the completion of cervical dilation. Transition is a short but intense phase, averaging 3.6 hours in the nullipara and having a variable length in the multipara woman. Contractions are very strong. They may be as frequent as 1.5 to 2 minutes apart, and their duration is 60 to 90 seconds.

The Second Stage of Labor

The second stage of labor, or the stage of expulsion, begins with complete dilation and full effacement of the cervix and ends with the birth of the baby. The duration averages 30 minutes to 3 hours in nulliparas and 5 to 30 minutes in parous women. Contractions may diminish slightly or even pause briefly as the second stage begins. They are still strong, about 2 to 3 minutes apart, with a duration of 40 to 60 seconds.

The Third Stage of Labor

The third stage of labor, or the placental stage, begins with the birth of the baby and ends with the expulsion of the placenta.

The Fourth Stage of Labor

The fourth stage of labor is the stage of physical recovery for the mother and infant. It lasts from the delivery of the placenta through the first 1 to 4 hours after birth. This is a period of dramatic physiologic and psychologic changes in which the woman makes the first adaptation to the non-pregnant state.

Concepts of Coping

Theory and Research Related to the Concept of Coping Definitions

One of the problems encountered in the literature is the multitude of definitions related to the concept of coping (Cohen & Lazarus, 1979; Lazarus & Folkman, 1984a, 1984b; McGrath, 1970; Pearlin & Schooler, 1978; Schuler, 1984; Yackel, 1983). Coping is primarily a psychological concept and although there are many definitions, all appear to share the basic idea that coping is a struggle with demands, conflicts and emotions. The Webster New World Dictionary (1984: 313) defines coping as "1. to fight or contend (with) successfully or on equal terms 2. to deal with problems, troubles, etc." This is different than defense mechanisms which the Webster New World Dictionary (1984: 370) defines to be "... any behavior or thought process unconsciously brought into use by an individual to protect himself against painful or anxiety-provoking feelings, impulses, perceptions, etc." The important distinction is that coping involves some degree of thought by the individual. Cohen and Lazarus (1979) defined coping as the action-orientated and intrapsychic efforts to manage environments and internal demands, and conflicts among them, which tax or exceed a person's resources. Later, Lazarus and Folkman (1984a) revised this definition to be the constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person. Within this definition is the inclusion of both defensive and coping strategies.

Coping, according to the concept of Lazarus and Folkman (1984: 141), is constantly changing. The main concepts in this model are cognitive appraisal and coping process.

Cognitive appraisal is defined as an evaluative process that determines why and to what extent a particular transaction between the person and the environment is a stress (Lazarus & Folkman, 1984: 19). They identified three kinds of cognitive appraisal:

Primary appraisal consists of the judgment that an encounter is irrelevant, benign-positive, or stressful. If an event is appraised as irrelevant, it means the event does not have any effect on the person's well-being. A benign-positive appraisal means that the event shows a signal of positive outcome. Stress appraisals are of three types: 1) harm and loss refers to damage that has already occurred; 2) threat means the person anticipates harm and loss will occur in the future; 3) challenge means feeling positive about demanding encounters, as reflected in the pleasurable emotions accompanying challenge. Threat and challenge can occur simultaneously. If individuals experience the challenge emotions, they will feel hopeful, eager and confident (Lazarus & Folkman, 1984: 32-35).

Secondary appraisal refers to an evaluation of coping resources and options. It is a judgment concerning what might and can be done (Lazarus & Folkman, 1984: 53). It is a complex evaluative process that takes into account which coping options are available, such as can they change or do anything, accept or be intimate, seek more information or delay doing something that needs to be done. At the same time, people have coping resources for managing stress.

Reappraisal refers to changed appraisal based on new information from the environment and/or the person to attenuate a stress that could change the interaction between the person and the environment. Reappraisal differs from appraisal only in that it occurs after an earlier appraisal.

Coping process is defined as the constantly changing cognitive and behavioral efforts to manage situations appraised as stressful (Lazarus & Folkman, 1984: 141). It serves two overriding functions: managing or altering the problem with the environment causing distress (problem-focussed coping) and regulating the emotional response to the problem (emotive-focussed coping). They influence each

other throughout a stressful encounter; they can both facilitate and impede each other. The aim of problem-focused is to manage or cope, aimed at regulating the emotional response to the problem (Lazarus & Folkman, 1984: 150-153).

Coping resources

The way a person copes is determined in part by the resources that are available or exist and a person's ability to find the necessary resources. In order to cope with a situation appraised as a stress, people usually draw upon two categories of coping resources, the primary properties of the person (personal resources) and environment resources. Personal resources include health and energy (physical resources); positive beliefs (psychological resources) which include general beliefs about control such as personal control where the person assumes that the outcome of events can be controlled, specific beliefs such as individual hopes and existential beliefs that create hope and sustain coping efforts when facing stressful experiences; problem-solving skills and social skills (competencies). Social support and material resources are environmental resources (Lazarus & Folkman, 1984: 159-164).

Classifications of coping strategies

Lazarus and Folkman (1984: 150-152) classified coping strategies as follows:

1. Problem-focussed coping refers to dealing with a problem directly, as a process in which one is prepared to handle stress or alter the situation for the better, or to change the situation through processes such as problem analysis, confrontation approval, acceptance, and usage of past experience.
2. Emotive-focussed coping leads to a change in the way an encounter is interpreted without changing the objective situation. It may change the meaning of a stressful transaction without distorting reality. We use this form of coping to maintain hope and optimism, to deny both fact and implications, to refuse to acknowledge the worst, and to act as if what happened does not matter.

Concepts of Pain

Pain is a biobehavioral, subjective, and personal experience of noxious stimuli, considered to be whatever the patient says it is and that occurs whenever the patient says it does (McCaffery, 1979 cite in Roy, 1999: 270).

The definition of pain recommended by the International Association for the Study of Pain is that it is an unpleasant sensory and emotional experience associated with actual or potential tissue damage.

Reeder, Martin and Koniak-Griffin (1997: 575) defined pain is a personal, subjective experience, differing from one person to another and varying within the same person from one time to the next. Person who has a pain experience may communicate in verbal and nonverbal ways. Pain experience encompasses all of the physiological sensations, feelings and behavioral responses.

Murray, McKinney and Gorrie (2002: 364) defined pain is a universal experience that is difficult to define. It is an unpleasant sensation of distress resulting from stimulation of sensory nerves. Pain involves two components: a physiologic component including reception by sensory nerves and transmission to the central nervous system and a psychological component, which involves recognizing the sensation, interpreting it as painful, and reacting to the interpretation.

Jintana Bangang (B.E. 2533: 4) described pain is feeling of discomfort that result from stimulation and response of physiological when tissue damage or emotional disturbance. Pain acts as a protective mechanism to warn the person of potential harm. Pain is personal feeling, for only the person who had pain experience can tell what it is, and it exists whenever the person says it does. And that different times it can be different within the same person.

In summarize, pain is the mechanism that acts for protection the person of actual or potential sources of tissue damage. Pain is a result of a complex and subjective interaction from multiple physiologic and psychosocial factors on a woman's individual perceptive of stimuli and that changes over experience and time.

Mechanism of pain and Gate control theory

Pain experienced is a complex perception that is deeply related to physical and psychosocial factors. Pain mechanisms have been explained in several theories. The gate control theory with endorphin action were accepted as the classic theory.

The gate control theory was first proposed in 1965 by psychologist Ronald Melzack and anatomist Patrick Wall. They suggested that there is a "gating system" in the central nervous system that is like mechanism which inhibits or facilitates the flow of afferent impulses into the spinal cord before it evokes pain perception and

response. According to the gate control theory of pain, transmission of nerve impulses is controlled by a neural mechanism in the dorsal horn of the spinal cord that acts like a gate to control impulses transmitted to the brain. Transmission is affected by stimulation of large-diameter or small-diameter sensory nerve fibers and descending impulses from the brain. This mechanism opens or closes the “gate” to pain sensation by allowing or preventing some impulses from reaching the brain, where they are recognized as pain.

Pain is transmitted through small-diameter sensory nerve fibers. Stimulation of large-diameter fibers in the skin block conduction of pain through small-diameter fibers, thus “closing the gate” and decreasing the amount of pain felt. Examples of this stimulation would be tactile stimulation such as massage, thermal stimulation, or hydrotherapy.

Impulses from the brain have a similar ability to impede transmission through the dorsal horn using visual and auditory stimulation techniques. Examples of visual or auditory stimulation include use of a focal point or breathing techniques.

Memory and cognitive processes affect the perception of stimuli as painful. Education and support during labor are used to increase the woman’s relaxation, confidence, and feelings of control. Although these methods may not completely prevent pain, they may decrease the severity of perceived pain (Creehan, 1996: 227-245 cited in Murray, McKinney & Gorrie, 2002: 368).

Pain during labor

The occurred of pain during labor has two types: visceral and somatic pain. Visceral pain is a slow, deep, poorly localized pain that is often described as dull or aching. It dominates during first-stage labor as the uterus contracts and the cervix dilates. Somatic pain is a quick, sharp pain that can be precisely localized. It is most prominent during late first-stage labor and during second-stage labor as the descending fetus puts direct pressure on maternal tissues (Murray, McKinney & Gorrie, 2002: 365). Pain during labor ceases after childbirth.

Cause of pain during labor

There are two causes of pain during labor: physical and emotional.

- **Physical** causes of pain can be divided by stage of labor as follows (Lowdermilk, et al., 1999: 305-306).

1. During the first stage of labor, the uterine contractions cause cervical dilatation and effacement and uterine ischemia (decrease blood flow and therefore local oxygen deficit) resulting from the contraction of the arteries to the myometrium. Pain impulses during the first stage of labor are transmitted to the spinal nerve segment of T11-12 and access lower thoracic and upper lumbar sympathetic nerves. These nerves originate in the uterine body and cervix. The discomfort from cervical changes and the uterine ischemia is visceral pain. It is located over the lower portion of the abdomen and radiates to the lumbar area of the back and down the thighs. Usually a woman experiences pain only during contractions and is pain-free between contractions.

2. During the second stage of labor, the stage of expulsion of the baby, the woman experiences perineal or somatic pain. The perineal discomfort results from stretching of perineal tissues to allow passage of the fetus and traction on the peritoneum and uterocervical supports during contractions. Pain also can be produced by expulsion forces or from pressure by presenting part on the bladder, bowel, or other sensitive pelvic structures. Pain impulses during the second stage of labor are carried through S1-4 and spinal nerve segments and the parasympathetic system from perineal tissues.

3. Pain experience during the third stage of labor, as well as so-called after pains, is similar to that experienced early in the first stage of labor. Pain may be local, with cramping and a tearing or bursting sensation resulting from distention and laceration of the cervix, vagina or perineal tissues.

- **Emotional** causes include negative emotions experienced while in labor such as fear, anger, and anxiety. Fear is the major factor causing pain. Fear is a feeling of tension and uneasiness when stimuli are present, and it can be categorized into three forms (Kartchner, 1950 cited in Jintana Bangang, B.E.2533: 33).

1. Fear about oneself. For example, fear about labor pain, fear of abandonment and lack of empathy, and fear of losing one's self-worth when facing pain and not being able to control oneself.

2. Fear about the baby. For example, fear of fetal death, which is a consequence of skepticism in nurses and doctors, or of dangerous alarms such as a decrease of fetal quickening.

3. Fear about the unknown. This type of fear happens to all first-time mothers because labor is unknown and unpredictable.

Factors affecting pain

Factors that increase or decrease pain perception, tolerance and behavior are factors affecting pain. Factors affecting pain during labor include:

1. Age. In primigravidarum, older woman experience more severe and longer pain than younger ones (Olds, et al., 1984: 411). And Jintana Bangang (B.E.2533: 33) found that laboring women's lack of experience and adaptation makes them intolerant to labor pain.

2. Occupation and intelligence. People with high education and sedentary work habits are pain prone while people with low education and that have had hard work experiences pain more slowly and are more tolerant to pain (Jintana Bangang, B.E.2533: 3).

3. Number of childbirths. Primigravidarum feel pain in the first stage of labor more than multigravidarum because cervical tissue is harder and cervical effacement is longer (Lowe, 1987: 340-346). Previous birth experiences may also influence the woman's response to pain. For woman who have had a difficult and painful previous birth experience, anxiety and fear from this past experience may lead to increased pain (Lowdermilk, et al., 1999: 307).

4. Fetal position. Abnormal fetal position, such as occiput posterior position, causes severe and longer labor pain (Gorrie, et al., 1994: 363).

5. Intensity and duration of uterine contraction. The strength of the uterus contractions may lead to severe pain (Olds, et al., 1984: 411).

6. Receiving contraction-inducing agents causes increment of intensity and duration of uterus as compared to natural contractions (Clark, et al., 1979: 394).

7. Anxiety and fear are commonly associated with increased pain during labor and birth. However, excessive anxiety and fear cause more catecholamine secretion, which increases the stimuli to the brain from the pelvis because of the decreased blood flow and increased muscle tension, which in turn magnifies pain (Koniak, 1992: 516; Lowe, 1996 cited in Lowdermilk, et al., 1999: 307; Reeder, et al., 1997: 577). Thus, as fear and anxiety heighten, muscle tension increases, the effectiveness of the

uterine contraction decreases, the experience of pain increases, and a cycle of increased fear and anxiety begins.

8. Stripping away of fetal membrane. Laboring women who received artificial rupture of membranes will have more pain than laboring women who have spontaneous rupture of membranes. Artificial rupture of membranes may cause increased intensity and duration of uterine contractions. The more the uterus contracts, the more pain is experienced but it may have the benefit of shorter periods of labor pain.

Pain in labor assessment

Pain in labor assessment is difficult because pain is personal. Assessment of pain can be done by the following:

1. Assess by using physiological changes such as heart rate, blood pressure, respiratory rate, dilatation of the irises, hidrosis, nausea and vomiting (Clark, et al., 1979: 447-448).
2. Assess by self-reporting, for example using the Category Scale, Simple Descriptive Scale (SDS), Numerical Rating Scale (NRS), Visual Analogue Scale (VAS), or Johnson's Two Components Scale.
3. Assess by observation of behavior such as verbal communication about pain, crying, moaning, agitation and hyperventilation.

In this study, the researcher will test pain in labor by the Labor pain coping behavior observation form. This instrument will be used to observe maternal behavior in 6 aspects such as facial expression, vocalization, tone of voice, body movement, relaxation level, and breathing control (Sukpinush Sankasuwan, B.E.2543: 52-53).

Pain relief technique in labor

The nurse who cares for women in labor and birth can offer many nonpharmacologic pain management methods. When the laboring woman is admitted, the nurse can teach the laboring woman a number of nonpharmacologic techniques. The latent phase of labor is the best time for intrapartum teaching because the woman is usually anxious enough to be attentive and interested, yet comfortable enough to understand. The nurse must usually teach one contraction at a time during late labor because the woman's focus is very narrow (Murray, McKinney & Gorrie, 2002: 368).

Non-pharmacologic management

The principles and methods of pain reduction are as follows (Piriya Soupsri, B.E.2533: 33-37; Koniak, 1992: 517-529; Reeder et al., 1997: 584-595; Lowdermilk et al., 1999: 309-313):

1. Psychological support by showing understanding, empathy, respect and good communication. Fear, anxiety and confusion cause more pain and psychological support can allay fear and anxiety. The nurse may reduce a woman's anxiety and help to increase her self-control by providing accurate information and focusing on birth as a normal process. Simple nursing actions keep the focus on the normality of Childbirth. For example, calling the woman by her name rather than calling her a "patient" (meaning "sick") helps her to see the birth as a normal process. Empowering the woman by giving her choices whenever possible helps her to see herself as competent and capable of giving birth.

2. Education about the birth process. Knowing what will happen beforehand can decrease the fear-tension-pain cycle. Adequate education about the birth process to the woman and family can reduce pain.

3. Stimulus control. Controlling obnoxious stimuli such as heat, hunger, sweat, light, and noise can lessen labor pain. Comfortable surroundings support relaxation. The nurse can reduce the effect of irritants such as bright lights, uncomfortable temperature, change soiled underpads, and actions to increase comfort.

4. Distraction. Distraction from pain is an effective way to abate pain. By this method, the pain impulse at the brain stem is blocked and the gate is closed at the spinal cord, so no pain firing enters the brain. Distraction also increases the release of morphine-like substance to control pain. Distraction can be done by many methods such as breathing techniques, listening to music, visual imagination of favorite places or of the baby's face, reading or talking to relatives.

5. Tactile stimulation. Tactile stimulation causes nerve firing at large-diameter fiber underneath the skin and these block pain fibers which are small-diameter fiber. Laboring women can reduce their pain by touching or massaging their bellies while in the first stage of labor. Massage may be used during labor and may be an effective pain relief measure. One common massage technique is effleurage, or abdominal massage. Rubbing the lower back also is common. Rubbing a painful body part is a

universal means of relieving pain. Massage increases blood circulation and reduces muscle tension. Nurse can rub the woman's back, shoulders, legs, or any area where she finds massage helpful.

6. Muscle relaxation. Pain, anxiety and muscle tension are closely related and one causes another. Muscle relaxation decreases muscle tension and reduces pain and anxiety. Muscle relaxation also helps laboring woman rest, recedes exhaustion, and increases pain tolerability. Muscle relaxation is effective when the laboring woman relaxes muscles in various parts of the body simultaneously. Relaxation relieves pain by interrupting the spiraling process of pain and anxiety. The behavioral response of relaxation, therefore, is incompatible with pain and anxiety responses. Promoting relaxation is the basis for all other methods, both nonpharmacologic and pharmacologic, because it does the following:

- Promotes uterine blood flow, improving fetal oxygenation
- Promotes efficient uterine contractions
- Reduces the tensions that increases pain perceptions and that decrease pain tolerance
- Reduces tensions that can inhibit fetal descent

Relaxation undoubtedly provides pain relief for other reasons, depending on the individual person. For some women in labor, efforts to relax can be a distraction from pain. Of 1,761 women, 88 % rated the effectiveness of relaxation as a "good" or "very good" method of pain relief in labor (Chamberlain et al., 1993: 215).

7. Breathing techniques. Lamaz method teaches breathing techniques. While in labor, the woman can control and use breathing techniques corresponding to the stage of labor. This leads to a balance between breathing and uterine contractions. Breathing techniques give a woman a different focus during contractions, interfering with pain sensory transmission. They begin with simple patterns and progress to more complex as greater distraction is needed. No universal right time exists to change patterns during labor. However, complex patterns are fatiguing to use for a long time.

Breathing Techniques Goals

- Provide adequate oxygenation of mother and baby, open maternal airways, and avoid inefficient use of muscles.
- Increase physical and mental relaxation.

- Decrease pain and anxiety.
- Provide a means of focusing attention.
- Control inadequate ventilation patterns that are related to pain and stress.

Breathing techniques should be used only when needed, usually when the woman can no longer walk or talk during a contraction. The woman should not change from a simple technique to the next, more complex, technique until necessary so that use of the most complex techniques is limited to the shortest time possible.

Breathing in the first stage of labor

Breathing in the first stage of labor consists of a cleansing breath and then moves to the progressively more complex techniques of paced breathing.

- Taking a cleansing Breath

Each contraction begins and ends with a deep inspiration and expiration known as the cleansing breath. Like a sigh, a cleansing breath helps the woman release tension. It provides oxygen to help reduce myometrial hypoxia, one cause of pain in labor.

The cleaning breath also helps the woman clear her mind to focus on relaxing and signals her labor partner that the contraction is beginning or ending. The woman may inhale through the nose and exhale through the mouth or take her cleansing breath in any way comfortable for her.

- Slow-Paced Breathing

The first breathing is slow-paced breathing; a slow, deep breathing that increases relaxation (Figure 3). The woman should concentrate on relaxing her body rather than on regulating the rate of her breathing. Relaxation naturally brings about slower breathing, similar to that during sleep. She can use nose, mouth, or a combination, depending on which is most comfortable for her.

Slow-paced breathing should be used as long as possible during labor because it promotes relaxation and oxygenation. It is easy to learn between contractions and with the support of the nurse, helps even a frightened women become calm and able to work with her contractions.

As with all techniques, variety prevents habituation. Adding other pain-relief approaches such as effleurage may help prolong the effectiveness of slow-placed

breathing. Using another type of breathing for a short time may allow the woman to return to slower breathing again.



Figure 3 **Slow-paced breathing.** Although a specific rate may or may not be used, slow-paced breathing should be *no slower than half* the women's usual respiratory rate to ensure adequate oxygenation. This pace is generally about six to nine breaths per minute.

- Modified – Paced Breathing

When slow – paced breathing is no longer effective, the woman begins modified – paced breathing (Figure 4). This is chest breathing during the stress of physical work, such as labor. Although modified-paced breathing is more shallow than slow-paced breathing, the faster rate allows oxygen intake to remain about the same. As with slow-paced breathing, the focus is on release of tension rather than on the actual number of breaths taken.

Women sometimes learn to combine slow and modified-paced breathing during a contraction (Figure 5). They begin slowly and use shallow, faster breathing over the peak of the contraction. During labor, women often do this naturally. The most important concern is that the breathing not interferes with relaxation, but instead enhances it.

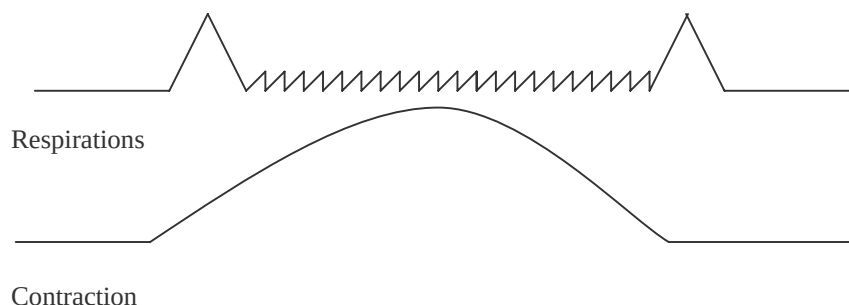


Figure 4 **Modified – paced breathing.** The pattern for modified – paced breathing should be comfortable to the woman and *no faster than twice* her normal respiratory rate to prevent hyperventilation or interference with relaxation.

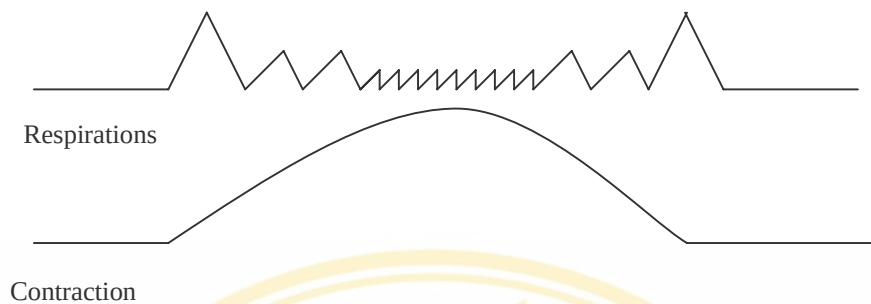


Figure 5 Combining techniques. Slow and modified-paced breathing can be combined by using the slower breathing at the beginning and end of the contraction and the more rapid breathing over the peak of the contraction.

- Patterned – Paced Breathing

Patterned – paced breathing (sometimes called pant blow breathing) involves focusing on the pattern of breathing (Figure 6). It is similar to modified – paced breathing. After a certain number of breaths, however, the woman exhales with a slight emphasis or blow and then begins the modified – paced breathing again. This addition causes her to focus more on her breathing and reduces habituation. The mouth should remain relaxed, and the woman should not try to make specific sounds that would tighten her vocal cords. Relaxation of her entire body is the goal.

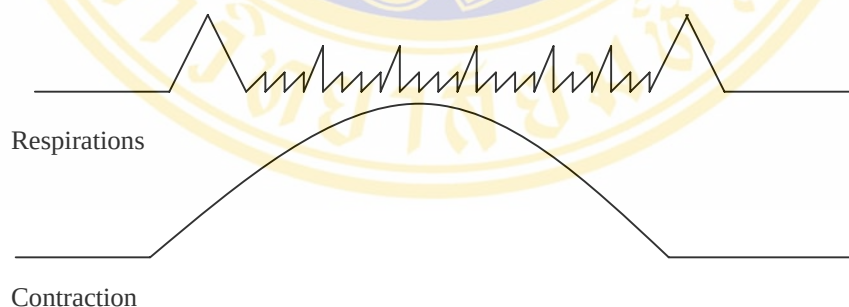


Figure 6 Patterned – paced breathing. Patterned – paced breathing adds a slight emphasis or “blow” on the exhalation in a pattern. The diagram shows the emphasis after every third inhalation.

The number of breaths before the blow may remain constant (usually between two and six) or may change in a pattern. Variations include a set pattern such as “3-1, 5-1, 3-1” or a decreasing, “stair-step,” pattern such as “6-1, 5-1, 4-1, 3-1.”

Breathing in the second stage of labor

In this technique, the women uses closed-glottis pushing (Valsalva's maneuver) usually for as long as she can hold her breath, which raises intrathoracic pressure and reduces her cardiac output and blood pressure. Overtime, this type of pushing is fatiguing for the mother and can reduce fetal oxygenation.

A more physiologic pushing method is to wait for the woman's spontaneous urge to push or for fetal descent to a +1 to +2 station. The woman usually pushes in short bursts initially, as the fetal head exerts pressure on her perineal tissues. As the fetus descends and pressure increases, her pushes become longer, about 4 to 6 seconds, as if lifting a heavy weight. If the woman can not feel the urge to push even with fetal descent, the nurse may have to direct her pushing and should try to mimic this physiologic process. Points to remember about physiologic pushing are as follows:

- Push with an open glottis, about 4 to 6 seconds at a time
- Avoid prolonged breath-holding longer than 6 to 8 seconds
- Avoid more than four pushing efforts per contraction.

Minimal research has been done to document the effectiveness of breathing techniques as a coping strategy during labor and birth. However, when 57 primiparas were interviewed within 24 hours of birth, breathing was chosen as one of the most helpful techniques to practice during childbirth (Koehn, 1992: 35-43).

Two researchers did not separate relaxation from breathing techniques when evaluating its effectiveness; 89 % of women rated relaxation and breathing techniques as "good" to "very good" pain relief. (Of the same group, 93 % rated the epidural as "good" to "very good" pain relief; Chamberlain et al., 1993: 215). Breathing and relaxation were rated as "very helpful" to "controlled pain completely" in 58% of multiparas and 48% of primiparas (Green, 1993: 65-72).

8. Attention focusing. A focal point is typically used when the woman wants to keep her eyes open during contractions. It can vary from something in the labor room to look at, to a specific picture or item the woman chooses to bring with her. By this method, pain is relieved by having laboring woman look at any point while the uterus contracts. Attention focussing stimulates more intense neural signals than uterine contractions. Pain is reduced and tolerability increases.

9. Therapeutic touch. Therapeutic touch is based on a folk-healing practice known as laying on of the hands. The healer places themselves in a meditative state, their energy to the client in order to relieve pain or other problems. Touch and communicates simultaneously relaxes and satisfies people. Stimulation of the skin may activate the large diameter fibers, which may cause an inhibition of the pain messages carried by the smaller fibers. Another possibility is that certain types of skin stimulation may increase the endorphin levels. The effectiveness of some methods of cutaneous stimulation may be related to therapeutic touch (McCaffery et al., 1989: 125). Cutaneous stimulation usually reduces the intensity of pain or makes it more bearable. Cutaneous stimulation has several variations that are often combined with each other or with other techniques. Nonclinical touch by the nurse is a powerful tool if the woman does not object to it. Holding her hand, stroking her hair, or similar actions convey caring, comfort, affirmation, and reassurance at this vulnerable time.

10. Heat and cold. Heat is good for decreasing tension and promoting overall relaxation. It dilates blood vessels and is usually recommended for low to moderate pain. Cold reduces pain by decreasing muscle tensions.

11. Transcutaneous electric nerve stimulation (TENS). TENS is a form of cutaneous stimulation that has been used for pain relief during the first stage of labor. The mechanisms behind the effectiveness of TENS in relieving pain are unclear. Some types of TENS appear to relieve pain by increasing endorphins. Other types may act as counterirritant, masking pain by activating a complex neural inhibiting system.

12. Hypnosis. People under hypnosis are in a trace or dream like state and can be suggested to release all their tensions, to feel safe and even to change attitudes to be more positive towards childbirth.

13. Acupuncture, like hypnosis, is very safe to women and their fetus. A limitation of this method is there is no specific point for blocking of labor pain and experts on acupuncture are scarce.

Support is very important for people who have stress because support is an inner psychic power that influences to push capable behavior in persons, leading to efficiency and happiness at a particular task. When people have good support and powerful minds, they can overcome a crisis very well (Jantarapat, 1990: 31). Vatera

(1979 cited in Jantarapat, 1990: 31) found that support during labor could promote endurance of pain and reduce fear, which in turn can change negative feelings to positive feelings, and encourage self-efficacy for confronting future situations. Similarly, the studies of Gordon et al. (1999: 422-426), Hofmeyr et al. (1991: 756-764) and Wolman et al. (1993: 1388-1393) found that mothers in support groups improved their abilities to cope during labor.

In this study, the researcher is interested in using nursing support during labor; made up of the components of information, emotional, and tangible support to support laboring women during labor pain, and which are medically safe activities.

Labor pain coping behaviors

The pain of childbirth has had a bad reputation. There is no doubt that any experienced mother will tell you giving birth is painful (Balaskas, 1983: 65). When the thalamus gets impulses of pain and translates them, there are always reactions to pain.

The physiologic reactions to pain are similar to the autonomic reactions to stress (Clark, Affonso & Harris, 1979: 447), and are as follows:

1. Autonomic reactions are immediate physiologic responses resulting from increasing blood flow to brain and muscles, leading to elevated blood pressure and increased heart rate, and increased oxygen supply for brain and muscles, leading to rapid and irregular respiration, as well as dilated pupil diameter and increased perspiration.

2. Skeletal muscle reactions are reactions that enhance mental alertness to threats by increasing neuromusculoskeletal responsiveness, psychological responsiveness, and awareness, leading to increased muscle tension and can which be observed by changes in facial expressions, grimacing, clenched fists spasms, and protective positioning of body parts.

3. Psychic reaction - Expressions of suffering vary from one person to another. These include verbalized pain, focusing attention on painful stimulus, moaning, groaning cries for help, not initiating any human interaction, depression, withdrawal, fear, anger, and anxiety.

When people are confronted with hazardous or threatening situations, they will change their behavior to manage the dangerous situation (Lazarus & Folkman, 1984: 187). They also show some behaviors that relate to feelings and emotions that are in line with the situation and their experiences. Thus, when women are in labor, they will have labor pain coping behaviors following the progress of labor (Clark, Affonso & Harris, 1979: 368-371) as follows:

1. Latent phase

In this phase impact of stressors are minimal, increased anxiety usually develops from stressors in environment, distorted perception of labor, and expectations unmet. If the pregnant woman has good adaptation, she will likely show adequate coping behaviors as follows:

- Verbalizations, such as ask a question, talkative.
- Vocal behavior, such as smiling, laughing, or crying.
- Able to meet essential bodily needs such as going to the bathroom by herself, wanting to be included in decision-making, and wanting to be informed of events as they happen.
- Able to utilize previous coping patterns.

If she can not adapt herself in this stage, she will show less desirable behaviors (relate to impact of increased anxiety) such as aggression, hostility, fantasizing, or withdrawal.

2. Active phase

In this phase, the contractions intensity the pain experience. Pregnant women feel increased fatigue: the mind is ready to tackle the problem but the body has decreased energy for coping. If the pregnant woman has good adaptation skills, she will demonstrate adequate coping behaviors as follows:

- Decreased responsiveness to the environment such as less talking, decreased activity, increased seriousness, preoccupation with the self and the labor process, and frequent demands.
- Autonomic reactions to stress and skeletal muscle reactions such as increase heart rate, increase respiration, dilated pupils, diaphoresis, grimaces, gripping bedrails, rapid positioning, and restlessness.

If a pregnant woman has misperceptions or misunderstanding, she can not adapt her behavior. She feels isolated and abandoned and will show less desirable behaviors such as regression, denial, withdrawal, and depression.

3. Transitional phase and second stage

In this phase, the pregnant women have high anxiety from fatigue and often experience exhaustion, making it difficult either to push or pant for controlled delivery. If she has good adaptation skills, she will show adequate coping behavior such as withdrawal from the environment, less awareness of stimuli, decreased ability to attend to events, less responsive to questions, decreased interest in making decisions, and frequent dozing between contractions. If she can not adapt or control herself, she show less desirable behaviors such as fear, crying, verbal expressions of “give up” or “ I can’t go on”

4. Third and fourth stages

In this stage, stress diminishes to a state resembling latent phase. If a normal delivery has occurred, fears for the self and baby are eliminated. Coping behaviors are similar to those in latent phase. If complications occur, the situational crisis will impose upon existing stress.

In each stage of labor, if the pregnant woman has appropriate coping behaviors, obstructions to labor will not occur. If she has inappropriate coping behaviors, tiredness and fatigue will be occur and obstruct labor. This leads to use of obstetric procedures that may cause maternal and fetal complications and affect the perception of her childbirth experience as well. In addition, pain inhibits breast-milk production, which effects breast feeding and the subsequent bonding-attachment between mater and baby (McCaffery, 1999: 609). However, the laboring women can be motivated to have adequate coping behaviors through nursing support during labor.

Perceptions of the childbirth experience

Definitions of perception

Perception is each human being’s representation of reality. It is an awareness of persons, objects, and events, Although one presupposes that human beings live in the same world and have some common experiences, individuals differ in what they select to enter their fields of perception. One’s perception is related to past

experiences, self-conception, biological inheritance, educational background, and socioeconomic status (King, 1981: 20).

Perception is the interpretation of stimulus and the conscious appreciation of it; resulting from activity of the cells in the cortex (Roy, 1991: 166).

Perception is the process by which a person receives data from the environment. It has two directions. The first direction is the perception of future events based on the current situation. The second direction is the perception of surrounding events and the environment leading to reactions to those around us.

Perception is the process that happens between stimulus and response (Junaem, 1996: 119) (fig.6)

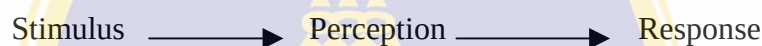


Figure 6: Perception process

Definitions of childbirth experience

Definition of childbirth experience are varied and these variations directly or indirectly reflect the maternal identity framework as follows:

Childbirth experience is the inner experience process of the laboring woman and is closely related to the spatial and temporal progress of labor (Rich, 1973 cited by walker, 1992: 227).

Childbirth experience is part of a woman's body image and physical experience of her body. Body image includes boundary, sensation, function, and appearance. Body boundary is the impression of the physical margin that separates self from others. Body sensation is the awareness of one's physical feelings. Body function is the impression of the ability to perform physical work in a manner for which one is specifically fitted. And, body appearance is the outward expression of the physical self (Berry, 1983 cite by Walker, 1992: 227).

Childbirth experience is effected by the use of therapeutic touch and touch during childbirth from husbands or nurse-midwives, including rubbing, holding, pressure, or patting (Birch, 1986 cited by walker, 1992: 227, 234).

Perception of childbirth experience is defined as sense, opinion, and meaning about every situation in labor stage. Labor is an important event for women (Gennaro, 1988: 53).

In this study, perception of childbirth experience means sense, thought, and meaning about every situation that occurs during labor and delivery about ability to control herself, pain relief skills, pain, anxiety, fear during labor, delivery and fetus status, satisfy to delivery, as well as being able to recall events during the stages of labor, talking to others person to have about these a situations and their feelings after talking. There are many factors that cause each different perception of childbirth.

Factors that effect the perception of the childbirth experience

Delivery is an important event for women (Gennaro, 1988: 53). Perceptions of the childbirth experience is difference for each mother, some positive, some negative. Perceptions of the childbirth experience depend on the following factors (Clark, Affonso & Harris, 1979: 345-356):

1. Identity and self – For mothers who feel that labor and birth are experiences which enhance the self, childbirth is viewed as a meaningful event. Expectations and goals about childbirth are realistic and attainable, and the feedback to all participating in the process is positive. These mothers have positive perception of childbirth experience.

On the other hand, mothers who feel that childbirth is a stressful process, or that a desired goal has not been realized, who may be in conflict with expectations of others (including health professionals), or who are not familiar with the medical procedures or the progress of labor, will have negative perceptions of the childbirth experience.

2. Role expectations - role expectations may be defined by culture, particular events, and the individual's perception of desired behaviors. For example, some women prefer to take on dependent roles, and exhibit this dependency by making frequent demands and by the inability to make even minor decisions. If mothers do not meet their role expectations during the performance of labor, negative perceptions of childbirth experience will occur.

3. Fear and anxiety - In labor there are many specific characters of the environment and situation that lead to stress and fear. For example, unfamiliar places

and persons, hospital rules, required treatments such as receiving intravenous fluid, receiving a fleet enema, the cleaning and shaving of the perineum, intermittent vaginal examinations, restricted movements, being on monitor augmentations etc. (Chalmers, Enkin & Keirse, 1989: 806). In addition, anxiety and fear during labor arise not only from physical stressors, but also from unmet expectations and the progress of labor. According to Athaseri and Serisathien's study (1988: 27-28), primigravidas who do not receive augmentation have positive perceptions of the childbirth experience.

4. Sensory Alteration - different kinds of sensory experience that may occur during labor can lead to either sensory overload or to sensory deprivation.

- Sensory overload can come from physiologic phenomena such as vaginal secretions, ruptured membranes, frequency of contractions, and changes in the cervix and environmental phenomena such as the frequency of vaginal examinations, manipulations to aid in the delivery process, the rapid or unexplained movement of staff members, or inappropriate conversation about the rapidly developing situation. These things can stimulate stress in pregnant women.

- Sensory deprivation can be caused from the interruption of usual and daily because of activities as bed rest, intravenous fluid, lack of visitors etc, as well as loss of identity that may occur when a woman is referred to as a number or another label instead of by her name.

5. Loss of expectations or values – prior to labor, a woman may experience a sense of loss as follows;

5.1 Loss of expectations or values – Prior to labor, a woman and family may focus on fantasies about the baby's appearance, the sex of the baby, and the events during labor. A sense of loss that occurs when these expectations are not fulfilled, can lead to sadness.

5.2 Loss of some aspect of the self such as:

- Loss of body image from lose of control over bodily functions, for example, spontaneous bowel movements or urination may generate feelings of lack of control over one's eliminative functions. The loss of her expanded figure after delivery. These make her feel a loss of body image.

- Loss of self-esteem is usually interrelated with the losing control or the inability to cope with the situation, negative or no feedback about one's behaviors, and unmet expectations.

- Loss of other roles - the woman who enters labor is usually not given any recognition for her career status. Rather, she is viewed simply as another woman in labor.

In addition, There are other factors which affect perceptions of childbirth experience such as duration of labor, for example, mothers who have short duration of labor have positive perceptions of the childbirth experience (Athaseri & Serisathien, 1988: 27-28). Psychosocial factors include early interaction with the baby, support from husband during labor, experience of positive life events during the year prior to birth, and higher total positive self-concept related to positive perceptions of childbirth experience (Mercer, Hackley & Bostrom, 1983: 202-207).

The perceptions of childbirth experience index was modified from Marut and Mercer's (1979 cited by Serisathien, 1987: 37-38) questionnaire for assessing the perception of childbirth experience by evaluating:

1. Success in pain release skills.
2. Confidence during labor.
3. Relaxation during labor.
4. Feelings of satisfying during labor.
5. Self-control during labor.
6. Expectations about baby.
7. Cooperative members of the obstetrics team.
8. Partner's help through labor.
9. Labor memories.
10. Pain during labor.
11. Unpleasant feelings during labor.
12. Worries about the baby's condition.
13. Feelings about using equipment during labor.
14. Expectations about the experience prior labor.
15. Opportunities to make choices in care.

16. Changes after talking about childbirth experience, and feelings after talking.
17. Satisfaction with the birth outcome.
18. Duration after labor until mother holds baby and duration after labor until mother touches baby.

After the assessment, nurses can evaluate each woman's perception of childbirth experience. Then, nurses can immediately help mothers who have a negative perception of childbirth experience to recover and move on.

Both labor pain coping behavior and the perception of childbirth experience for women in psycho supportive groups are better than for women in regular care (Athaseri et al., 1990: 60). Successful bonding and attachment with the child depends on positive perceptions of childbirth (Peterson & Mehl, 1978: 1168-1173). Maternal sense depends on individual personality, the duration of labor, the mother's feelings about labor pain, and the actions of doctors and nurses, as well as actions of the husband and the relatives of the mother during labor and immediately after birth (Yaowalak Serisathien, B.E.2530: 37).

Nursing support during labor

Labor and birth are very demanding for everyone involved. The laboring mother needs physical, emotional, and mental (informational) support before, during and after labor. Having someone with the laboring woman at all times, keeping her well informed, reminding her to change position and urinate frequently, encouraging her, reminding her of why she is doing this, and many other jobs such as these are needed in labor.

This labor support can be done by the father of the baby, the woman's sister, friend, or mother, a childbirth educator, or a doula (professional labor supporter). It can also be a job that is shared, because there is plenty of work to go around. Medical studies have shown that having a doula present provides the following benefits: a 50% reduction in the cesarean rate, a 60% reduction in epidural requests, a 40% reduction in the use of pitocin, a 25% shorter labor, a 30% reduction in use of analgesia, a 40% reduction in forceps use, and an increased rate of maternal satisfaction.

According to Lazarus and Folkman (1984), cognitive appraisal and coping occur in stressful situations and mediate distress. Stress is defined as “a particular relationship between the person and the environment”. Coping is defined as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984: 141). Coping has two main functions. Emotion-focused coping regulates the distressing emotions caused by encounter. Problem-focused coping is directed to management of a problem through a direct instrumental action that alters or mitigates the source of the stress (Lazarus & Folkman, 1984: 148-153). Coping is a constantly changing process therefore, people will cope differently at different times, depending on their changing situations. The ways people actually cope also depend heavily on the resources that are available to them and the constraints that inhibit the use of these resources in the context of the specific encounter. Coping resources include health and energy, positive beliefs, problem-solving skills, social skills, social support, and material resources (Lazarus & Folkman, 1984: 159-164).

Social support is perceived as the support given by society and by the family (Lazarus & Folkman, 1984: 164). It can be divided into three types of functions: emotional support, informational support, and tangible support. Emotional support includes intimacy and attachment, reassurance, and being able to confide in and rely on others, which contributes to the feeling that one is loved and cared about. Tangible support involves direct aid or services. This support can include loans, gifts of money or goods, and provision of services such as taking care of someone who is ill or doing a chore for them. Informational support includes giving information and advice which could help a person solve a problem and providing feedback about how a person is doing (Schaefer, Coyne & Lazarus, 1981: 385-386).

The widely respected notion that social support has a stress-buffering function requires the demonstration of an interaction between support and stress (Lazarus & Folkman, 1984: 246; Schaefer, Coyne & Lazarus, 1981: 387). Social support also acts directly and indirectly on health status. The perceived availability of social support is important in the stress and coping process. It is a relatively accessible resource,

which can be utilized in intervention, leading to decreased anxiety and the promotion of coping and adaptation.

When the laboring women appraise and perceive that childbirth is a crisis event in their life, it causes a high level of emotional stress. Nursing personnel can play a crucial part in social support. They can strengthen the patients' coping strategies by supporting their emotions and providing them with information until they are able to control perceived threats during childbirth. Adaptation outcomes are social functioning, increased morale, and a higher health status.

Childbirth is an anxiety-producing situation for many women. This process is an exciting and anxious time for the woman and her significant others (support persons, family) (Lowdermilk, Perry & Bobak, 1999: 348). Therefore, nursing support management should cover the responses to physical, mental, emotional, and social needs. This will help laboring women to cope appropriately with their anxiety and stress.

Reeder et al. (1976 cited by McNiven et al., 1992: 31) found that nursing support should consist of understanding, talking, giving advice, and doing everything possible to promote individual coping. Similarly, the study of Byrne and Sebastian (1994: 35) suggested that support should also include listening, problem solving, providing stability and consistency, usefulness, offering freedom in decision-making, eliminating boundaries and helping and respecting the pregnant women.

According to literature reviewed, nursing supports during labor were based on Schaefer, Lazarus and Folkman's conceptualization of support is shown as follows:

Emotional support

Empathy, esteem, concern, unconditional regard, and reflective listening are all emotionally sustaining behaviors (Gottlieb, 1992: 293-319; Hourse, 1981: 481). Samples of how intrapartum nurses provide emotional support include staying with the laboring women, making eye contact, touching her hand, or telling her that, "Those contractions are really strong. You are doing a great job!" Emotional support yields a sense of comfort and security and a feeling of being cared. Emotional support includes establishing relationships, physical presence and words of affirmation, reassurance, encouragement, praise, taking time to listen, staying nearby to be the women's friend, encouraging them to use all the techniques they have learned, using

touch and soft voice communication, and encouraging them to focus on deep breathing and relaxation when they have uterine contraction.

To supports and promotes self-efficacy by allowing the pregnant women to provide insights on their feelings about labor, and giving support and promoting self-efficacy by giving compliments when the pregnant women practice well, or by offering words that encourage her self-esteem throughout the stages of labor. In addition, the researcher acts as a friend during first stage of labor. Providing insights on their feelings about delivery can change the attitudes of pregnant women who fear labor and delivery (Kuczynski, 1984: 188). Decreasing anxiety can decrease the duration of labor as anxiety during labor may increase epinephrine release leading to a decrease uterine function and prolonged labor (Leaderman et al., 1978: 495-500). In addition, support during labor can promote endurance to pain, and help reduce fear (Vateraus, 1979 cited by Jantarapat, 1990: 31), which can change negative feelings to positive feelings, and encourage self-efficacy for confronting future situations (Suwannakot, 1984: 464). Support is very important for people who have stress because support is an inner psychic power that works to create capable behavior in people, leading to efficiency and happiness during a stressful task. When people have good support and powerful minds, they can overcome crises very well (Jantarapat, 1990: 31). In addition, methods such as being their friend, complimenting in order to enhance self-efficacy and support, helping and coaching about positions, and promoting physiological and psychological comfort (such as hold her hand). These are methods that can relieve pain and may also reduce duration of labor (Simkin, 1995: 169).

Sense of control over the event is also important. Feelings of powerlessness can provoke anxiety, so it is important to enhance the client's feelings of control. This may be done through instructions and explanations that help the woman cooperate with examinations and with the process of labor, for example, helping the woman with effective pushing. In particular, the woman's feelings of control can be strengthened by teaching her about pain relief measures as early as possible. In situations where this teaching has not been done before the onset of labor, the nurse can begin in early labor to explain certain pain relief measures. The woman then

knows that pain relief is available, that there are several possibilities, and that to some extent she may choose from among them.

Informational support

Informational support includes giving information and advice which can help a person solve a problem, and providing feedback about how a person is doing (Schaefer, Coyne & Lazarus, 1981: 385-386). By providing information about the setting and the work of personnel (e.g., about progress of labor; monitoring procedures; fetal/neonatal well-being; explaining hospital routines; getting information from patient, etc.) the laboring woman is made aware of what is happening, and techniques to cope with labor pain during labor and delivery. Instructing and coaching with breathing and suggesting techniques to promote relaxation or comfort (e.g., imagery; use of focal point, etc) are also useful forms of informational support.

From the beginning of labor, the woman needs to have someone with her at all times. The presence, actions, and words of this person can support the woman. This person may be the nurse, the father, a doula, or someone else.

When women were asked to rate helpful and unhelpful factors in the relief of pain other than pharmacologic and nonpharmacologic (e.g., breathing, relaxation) methods, a companion in labor was rated as the most helpful, far above other choices (Chamberlain et al., 1993: 216). Recent reports question whether labor nurses spend enough time in supporting activities with women in labor to be helpful companions (McNiven et al., 1992: 3-39).

As mentioned previously, part of the uniqueness of labor pain is that the woman may possess anxiety reducing knowledge. If the woman does not obtain this information for herself, the nurse can help. For example, the nurse may tell the woman approximately how long it will be before the next contraction and how long that contraction will last. During intense contractions, the nurse may count down at 15- second intervals until the end of the contraction, telling the woman how long it will be until the contraction ends. The nurse may time the contraction to reassure the woman by telling her when the contraction has reached its peak and will begin to subside. Information about the progress of labor, such as cervical dilatation and

descent of the fetus, also is important. It is a reminder that there is a purpose to labor, that labor does end, and that the end is getting closer.

Such information not only reduces anxiety, but also may motivate the woman to tolerate pain. Especially toward the end of labor, when pain increases, the knowledge that labor is almost over may enable the woman to tolerate an intensity of pain that she would otherwise find unbearable. The nurse also should encourage the client to take one contraction at a time and not worry about the next one. The nurse should tell the woman that the contractions will not get stronger.

Knowing that she and her fetus are not in danger also reduces anxiety. Sometimes the woman finds the forces of labor so unexpectedly powerful that she is fearful of harm. The nurse should periodically reassure the woman that she and her fetus are doing well (provided, of course, that this is true). The nurse may say, for example, that the baby's heart is strong and regular. Remembering that discomfort is associated with a normal process and not a life-threatening illness may be helpful to the woman. Briefly and simply, the nurse can remind the woman of what is happening (e.g., that each contraction enlarges the opening for the fetus).

Understanding what is happening during labor seems to increase the woman's sense of control over the event. Feelings of powerlessness can provoke anxiety, so it is important to enhance the client's feelings of control. This may be done through instructions and explanations that help the woman cooperate with examinations and with the process of labor, such as effective pushing. In particular, the woman's feelings of control can be strengthened by teaching her about pain relief measures as early as possible. When this teaching has not been done before the onset of labor, the nurse can begin in early labor to explain certain pain relief measures. The woman then knows that pain relief is available, that there are several possibilities, and that to some extent she may choose from among them.

Tangible support

Tangible support (physical comfort and safety support) involves direct aid or services. This support can include loans, gifts of money or goods, and provision of services such as taking care of someone who is ill or doing a chore for them. Tangible support including providing physical care; emptying the bladder, helping with personal hygiene, massage, reassuring touch; hand holding; stroking, helping with

positioning for woman's comfort, assisting with ambulation, helping in and out of bed; walking in the hall; walking to the bathroom, reducing environmental stimuli (e.g., turning lights down), and giving ice chips or fluids.

It is helpful to maintain an upright positions in the first stage of labor by walking, squatting, sitting on the chair, semisitting (lay on bed that head tilt 45 degree), or sitting on the bed and lean forward by changing position at least 1-2 positions an hour. The upright positions permit the abdominal wall to relax, which helps the fundus fall forward through the force of gravity. This forward position of the fundus directs the fetal head to enter the inlet of pelvic in an anterior position so as to conform to the cervix. The fetal head well applied to the cervix stretches. It is postulated that the cervical stimulus feeds back stimuli, which increases the intensity and regularity of uterine contractions (Liu, 1989:14; Reeder, Martin & Koniak-Griffin, 1997: 554; Pellitteri, 1995: 531). This is in-line with the study of Aderhold and Roberts (1991 cited by Dickason, Silverman & Schult, 1994: 296) found that pregnant women in an upright position tend to have were efficient and intense uterine contractions. In addition, if the woman uses upright positions during the active phase, it will lead to a short phase of maximum slope (Roberts, 1984 cited by Dickason, Silverman & Schult, 1994: 295). Effective uterine contraction leads to cervical change affecting labor (Dickason, Silverman & Schult, 1994: 282) which speeds the progress of labor, and is comforting (Pellitteri, 1995: 531), and increases control (Bennelt & Brown, 1989: 181). In addition, pregnant women prefer to be mobile in the early because prolonged stays in bed are uncomfortable (Sweency cited by Shaver, 1993: 58). However, changing positions prevents fatigue in any one-body part and improves circulation (Hassid, 1984: 110), and increases comfort as well (Reeder, Martin & Koniak-Griffin, 1997: 554). As a result, pregnant women may have better labor pain coping behaviors and a short first stage of labor when she maintains an upright position, Positive perception of childbirth experience will then occur because duration of labor has a negative correlation to perception of childbirth experience (Supranee Athaseri & Yaowalak Serisathien, B.E.2531: n).

Focus on breathing and relaxation – when the uterus contracts, a pregnant woman should relax her muscles and focus on her breathing by deep inspiration and

slow expiration. The researcher supports her by using techniques that will distract the pregnant woman in labor from feeling the pain of the contractions by helping her to concentrate on performing specific breathing patterns (Kuczynski, 1984: 190). Respiration can be thought of as an emotional change agent. Breathing in a relaxed manner can potentially reduce the incidence of panic responses to stressful stimuli such as labor contractions (Nichols & Huminick, 1988: 220). This leads to good labor pain coping behavior in pregnant women. In addition, breathing techniques can promote relaxation of the abdominal muscles and thereby increase the size of the abdominal cavity. This lessens friction and discomfort between the uterus and the abdominal wall because the muscles of the genital area also become more relaxed, and they therefore will not interfere with the descent (Bobak & Jensen, 1993: 455). When the presenting part against the cervix stimulates a reflex, uterine contractions and changes in the cervix occur resulting in progress of labor and a shorter duration of labor.

Effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience

A randomized clinical trial conducted in Mexico by Langer, Campero, Garcia and Reynoso (1998: 1056-1063) and Pascoe's (1993: 97-99) retrospective chart review from the United States found that support reduced the duration of labor. Other findings of interest came from Botswana and The United States. In Botswana, Madi, Sandall, Bennett and MacLeod (1999: 5-8), in a randomized clinical trial, found that the presence of a female labor companion was associated with fewer obstetric interventions (less intrapartum analgesia, fewer amniotomies to augment labor, fewer vacuum extractions) and a higher frequency of vaginal births.

In the United States, Gordon et al., (1999: 422-426), in a randomized clinical trial found that women who had a doula who assisted in labor and delivery used less epidural anesthesia.

Nurse researchers, Gagnon and Waghorn (1999: 371-376) and Gagnon, Waghorn & Covell (1997: 71-77) focused on the labor support provided by the intrapartum nurse, rather than on the doula or birth companion.

Gagnon et al. (1997: 71-77) conducted a randomized trial to compare nurse labor support with the usual intrapartum nursing care. The intervention was one-to-

one care from a labor nurse who provided emotional support, physical comfort, and instructional support. Gagnon et al. found a 17 % reduction in oxytocin stimulation in the group that received one-to-one nursing care. In 1999, Gagnon and Waghorn completed a secondary analysis of their previous randomized control trial to investigate the benefits of one-to-one nurse labor support on nulliparous women whose labors were stimulated with oxytocin. The group receiving one-to-one nursing care had a 56 % reduction in cesarean births, compared with the group that received the usual nursing care.

Women who received one-to-one continuous labor support found mothering easier (Hofmeyr et al., 1991: 756-764) and viewed their infant as less fussy (Manning-Orenstein, 1998: 73-81). Mothers who were supported during labor had a greater perception of control and more positive feelings about their labor than mothers who were not supported (Hodnett & Osborn, 1989: 289-297; Langer et al., 1998: 1056-1063). Mothers in the supported groups also reported (a) increased maternal satisfaction with the birthing process (Gordon et al., 1999: 422-426; Tarkka & Paunonen, 1996: 70-75, (b) improved ability to cope during labor (Gordon et al., 1999: 422-426; Hofmeyr et al., 1991: 756-764; Wolman, Chalmers, Hofmeyr & Nikodem, 1993: 1388-1393), and (c) higher self-esteem (Wolman et al., 1993: 1388-1393). In addition, mothers reported that they experienced less pain (Hofmeyr et al., 1991: 756-764) and had lower state anxiety and depression postpartum (Hofmeyr et al., 1991: 756-764; Wolman et al., 1993: 1388-1393) and that labor had a very positive effect on their feelings as women (Gordon et al., 1999: 422-426).

Researchers concluded that mothers who experience these positive psychologic outcomes from being supported throughout labor are more likely to have positive attitudes toward motherhood, develop rich and successful family relationships, and have positive development as women.

Summary: fear, anxiety and stress in labor pain are a common source of trouble for first-time mothers. Nursing support during labor can aid pain relief, reduce anxiety, increase labor pain coping behaviors, and help create a perception of a positive childbirth experience. Awareness and the importance of nursing support during labor must be promoted and inspired through interdisciplinary cooperation among public health personnel, particularly those working in the labor unit.

CHAPTER III

METHODOLOGY

This study was a quasi – experimental research project designed to study the effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience of first-time mothers who visited antepartum unit and gave birth at Ramathibodi Hospital. The description of the methodology includes population and sample, instrumentation, data collection, and data analysis.

Population and Sample

The target population of this study was first-time mothers who were admitted to and delivered a baby in the labor and delivery unit at Department of Obstetrics-Gynecology, Faculty of Medicine, Ramathibodi Hospital, Bangkok, in the period between May and October 2004.

The sample was selected using the purposive sampling technique, based on the following inclusion criteria:

- Between 18-35 years of age,
- Between 37 – 42 week of gestation,
- Carrying singletons,
- Both the laboring women and their fetus had no complication,
- Ability to speak, listen, read, and write the Thai language,
- Agreed to participate in the study,
- Were in the first stage of labor with the cervix dilated no more than 4 centimeters.

The criteria for exclusion from the study were as follows:

- Women who received epidural nerve block for painless labor.
- Women who gave birth with perinatal death, or their fetuses had complications or had body weight < 2,500 grams or > 4,000 grams.
- Women who received nursing support protocol for less than 3 hours.

- Women who had abnormal labor or obstetric operations.

Sample size

According to the recommendation of Polit and Hungler (1995: 243), for an experimental research study the sample size should be at least 20-30 cases. For comparison, the number of cases in each sample group should not be less than 10 cases; however, to keep data to the minimum error, a greater sample size is more suitable for generalization. Therefore, the sample size selected for this study was 60. The researcher followed the inclusion criteria and selected 60 cases as the sample group and divided then equally into the control and experimental groups, with 30 cases per group.

Setting

The study settings are the labor and delivery unit and the postpartum unit at Ramathibodi Hospital. The labor and delivery unit provides health services for pregnant women and education services for medical students, residents, nursing students, and other health team members from the Faculty of Medicine Ramathibodi Hospital, Mahidol University for clinical skills training. This unit consists of eleven attending beds, four delivery beds, three complication beds, and one single isolated room for infectious cases. It also provides 24 hours care for laboring women at more than 26 weeks of gestation, and attends to and monitors normal and complicated cases. Augmentation with oxytocin is used when the laboring woman has medical indications, and sedative medication is used when she can not tolerate the labor pain. After delivery, the mothers stay in the labor room for 2 hours and then transferred to the postpartum unit, while the newborns stay in the nursery of labor room for 6 hours and then transferred to the postpartum nursery room. In the labor unit, husbands and relatives are not allows to be with the woman during the labor and delivery period. The laboring woman is separated from her beloved husband and family, and enters the unfamiliar environment of the hospital.

The postpartum unit provides care for postpartum mothers who have had normal labor or abnormal labor, and for healthy newborns. Mothers received care from health care providers and they receive maternal instruction about breast-feeding,

infant bathing, newborn care, and postpartum practice.

Instrumentation

The instruments used in this study consist of two categories: instruments for intervention and instruments for data collection.

1. Instrument for intervention

1.1 Guidelines for nursing support during labor. The researcher established guidelines for nursing support during labor, based on the social support concept of Lazarus and Folkman (1984). This concept was defined as nursing activity provided to support laboring women's needs. There are 3 types: emotional, informational, and tangible support. The nursing support was provided by the researcher. According to Lazarus and Folkman emotional support for laboring women includes establishing relationships, physical presence and words of affirmation, reassurance, encouragement, praise, take time to listen to, touching, and respect the laboring women as a person by addressing their names. Informational support includes introduction of the setting and personnel work, process of labor and delivery, instruction for self-care, the laboring women is aware of what is happening and of techniques that may help her to cope and management methods, coaching in breathing and relaxation techniques. Tangible support include providing physical care, helping with personal hygiene, massage, reassuring touch, helping with the positioning, assisting with ambulation, holding, empty bladder, and giving ice chips or fluid (see appendix F).

Validity of the guidelines for nursing support during labor; there are 3 steps.

a. The guidelines for nursing support during labor was developed by reviewing textbook, document and thesis to obtain knowledge about labor and delivery process, meaning, signs and symptom of labor, methods and technique to cope with pain.

b. Five experts from the Maternity and Newborn Nursing reviewed the guidelines for nursing support during labor and then it was tested the content validity and appropriation of Thai language.

c. The nursing support during labor guideline was improved according to the experts' suggestion and try out for practicability.

1.2 The flip-chart was designed by the researcher. It was A4 in dimension. The pictures and contents were congruent with the guidelines for nursing support

during labor. During teaching the laboring women in experimental group, the researcher used it to review and practice the process of labor and technique to cope with labor pain. It was pictorial illustrations with accompanying explanations (see appendix G).

Validity of the instruments

The appropriateness of language use, clarity, and content validity of these instruments were verified by five experts in obstetric nursing (see appendix A). After the researcher modified the instruments in accordance with the experts' suggestions, the revised instruments were tried out with 5 subjects before using with the sample.

2. Instruments for data collection

2.1 The Demographic Data Form

This form was developed by the researcher. It covers the basic personal data and the obstetrical data of the laboring women. The basic personal data including age, education level, occupation, family income, pregnancy planning, and meet expected neonate gender. The obstetrical data (labor record of Ramathibodi Hospital) includes the information related to pregnancy, labor and delivery (see Appendix C).

2.2 Labor Pain Coping Behavior Observation Form

The researcher assessed labor pain coping behavior by using "the labor pain coping behavior observation form" of Sukpinush Sankasuwan (B.E.2543: 52-53) modified from the labor pain coping behavior observation form of Chavee Baosoung (B.E.2526: 113-114), which was developed based on Sterrock's labor pain coping scale (1972). This observation form was used to observe 6 aspects of maternal behavior including facial expression, vocalization, tone of voice, body movement, relaxation level, and breathing control (see appendix D).

This observation form was rated on 3 scales.

Score 1 showed that the pregnant women could not control her expressions of pain including facial muscle spasms, grimaces, lip biting, grinding her teeth, crying for help frequently, crying or screaming, muscle strain, and rapid respiration or breath holding.

Score 2 showed that the pregnant women could moderately control her expressions of pain shown by changing facial expressions, folding down her lips, speaking frequently about pain, crying for help, crying or whimpers, occasionally

uncontrolled movements of extremities, grasping or clenching her hand, occasionally using some breathing control.

Score 3 showed that the pregnant women could control her expressions of pain well shown by the relaxation of the facial muscles, normal facial expressions, not biting her lips, silence, no crying or moans, little movement of body or extremities, relaxation of all muscles, and frequently using breathing control techniques.

The meaning of total score was as follows:

17-21 means that the pregnant women had a good level of labor pain coping behaviors

12-16 means that the pregnant women had a moderate level of labor pain coping behaviors

7-11 means that the pregnant women had a poor level of labor pain coping behaviors

Validity and reliability of the instruments

Sukpinush Sankasuwan (B.E.2543: 52-53) brought the labor pain coping behavior observation form to six experts including one Obstetrician, four instructors of Obstetric and Gynecological Nursing, and one midwife in order to validate the observation form. These experts assessed the content validity of the observation form. The observation form was improved according to the suggestion of the experts.

Reliability is assessed by employing an interrater agreement procedure with an acceptable level set at .80. Ten pregnant women who had the same characteristics as the sample were assessed with the instruments. The interrater agreement was .84 calculated by the formula below (Polit & Hungler, 1995: 352).

$$\text{Reliability} = \frac{\text{Number of agreements}}{\text{Number of agreements} + \text{disagreements}}$$

In this study, the researcher assessed the interrater agreement of labor pain coping behavior observation form between the researcher and the research assistant with 10 laboring women who had the same characteristics as the sample. The interrater agreement was .82.

2.3 The Perception of Childbirth Experience Questionnaire

In this study, the researcher assessed perception of childbirth experience by using “the perception of childbirth experience questionnaire” of Sukpinush Sankasuwan (B.E.2543: 53-54). Sukpinush Sankasuwan modified this questionnaire from the perception of childbirth experience interview form of Yaowalak Serisathien (B.E.2530: 86-89) which she in turn based on Marut and Mercer (1979: 260-266). The questionnaire asked mothers their feelings about labor and delivery. The questionnaire was comprised of 26 items: 16 positive and 10 negative statements (see appendix E).

Each item was rated on 5-point scale:

Score 1 = the statement did not describe the mother's thoughts or feelings at all.

Score 2 = the statement described the mother's thoughts or feelings a little.

Score 3 = the statement described the mother's thoughts or feelings somewhat (about 50%)

Score 4 = the statement described the mother's thoughts or feelings for the most part.

Score 5 = the statement described the mother's thoughts or feelings almost completely or totally.

Mother must choose one answer for each statement.

The scores were given from one to five for the positive items, and were given from five to one for the negative items. The possible total scores ranged from 26 to 130, the higher score shows the more positive the perception of childbirth experience.

Validity and reliability of the instruments

Sukpinush Sankasuwan (B.E.2543: 53-54) brought the perception of childbirth experience questionnaire to six experts including one Obstetrician, four instructors of Obstetric and Gynecological Nursing, and one midwife validated this questionnaire. These experts assessed the content validity of this questionnaire. This questionnaire was improved according to the suggestion of the experts.

The internal reliability consistency (cronbach's alpha) was assessed with 10 pregnant women who had the same criteria as the sample. The alpha coefficient was .76 (Polit & Hungler, 1995: 351).

In this study, the researcher assessed the internal reliability consistency (cronbach's alpha) of the perception of childbirth experience questionnaire with 10

laboring women who had the same criteria as the sample. The alpha coefficient was .81.

Protection of Subjects' Human Rights

This study was conducted in accordance with the protection of the human rights of the research subjects. The research proposal was examined by the Data and safety Monitoring Board (DSMB) of the Faculty of Medicine, Ramathibodi Hospital, and Faculty of Graduate Studies, Mahidol University. Eligible subjects were asked to participate in the study. Prior to data collection, the researcher introduced herself to the subjects and explained the purposes of the study, the research procedures, benefits, length of time for the study, and requirements to complete the questionnaires in the study. The subjects who agreed to participate in the study informed and assured that the data would be kept strictly confidential and were reported only as group data.

Data Collection

Research Assistant Preparation

The researcher prepared one registered nurse as an assistant to assist in data collection. The assistant received an explanation of the project details and training on how to administer the labor pain coping behavior observation form and the perception of childbirth experience questionnaire. For the labor pain coping behavior observation form, the researcher and the research assistant observed labor pain coping behavior have many of the same laboring women at the same time until the capability of the observation are acceptable. For the perception of childbirth experience questionnaire, the researcher trained the research assistant to used this instrument. The assistant used this instrument to measure the sample groups to decrease possible bias in the data.

Procedure for Data Collection

The procedures of data collection was as follows:

1. Applying for permission to conduct research was performed by submitting the Data and safety Monitoring Board (DSMB) of the Faculty of Medicine, Ramathibodi Hospital, Mahidol University, to the Dean of Faculty of Medicine, Ramathibodi Hospital, the Co-ordinator of Obstetrics and Gynecology Nursing

department.

2. After getting permission, the researcher met the head nurse of the labor and delivery unit and the head nurse of the postpartum unit to explain the research project in detail and to get permission for data collection.

3. The researcher went to the labor and delivery unit between 07.00-18.00 p.m. every official day. The researcher selected the samples according to the criteria from their antenatal care report and medical records of the admitted laboring women.

4. The researcher introduced herself and contacted all the potential subjects to seek their willingness to participate in this study. The researcher explained the purpose of the study, the methods, the benefits from participation, and the protection of confidentiality to the subjects before they agreed and sign the consent form to participate in this study. The subjects could terminate their co-operation whenever they desired.

5. In order to prevent contamination of nursing care between groups that may cause feeling of unequal or unfair comparison, the data collection was done from the control group first and then the experimental group. The resting period between groups was 5 days after the last of laboring women was discharged.

6. After the subjects signed the consent form, they were asked to complete a questionnaire on demographic data. Approximately 10 minutes were allocated to completing the questionnaire for each subject.

7. The researcher performed the research process and collected data according to each group as follow:

7.1 The control group

7.1.1 After completing the questionnaire, the subjects received the usual nursing care from a labor nurse.

7.1.2 When the subjects have cervix dilated 5 centimeters in diameter, the research assistant observed and recorded the labor pain coping behavior during their uterine contraction by using the labor pain coping behavior observation form. This observation was performed every 30 minutes until the cervix was dilated 8 centimeters in diameter. After that, the observations were performed every 15 minutes until the cervix was fully dilated.

7.1.3 During 8-24 hours postpartum period, the subjects were asked to

answer the perception of childbirth experience questionnaire by the research assistant. It took about 15 minutes to complete.

7.2 The experimental group

Before collecting data from this group, the researcher studied and trained nursing support from experts in various settings of obstetric nursing in a program.

The process of selecting, approaching, and following the sample is the same as for the control group. In addition the subjects in this group received nursing support during the labor program from the researcher.

7.2.1 After completing the questionnaire, the subjects received usual nursing care from a labor nurse and received nursing support during the labor program from the researcher.

7.2.2 The researcher provided nursing support during labor program for the samples including emotional support, informational support, and tangible support (physical comfort and safety support) continually throughout the stages of labor. Emotional support includes establishing relationships, physical presence and words of affirmation, reassurance, encouragement, praise, take time to listen, support touching, and showing respect to the laboring woman as a person by addressing her by name. Through informational support about the setting and personnel, labor and the stages of labor, the laboring woman is made aware of what is happening and of techniques that may help her to cope and manage, coaching in breathing and relaxation techniques, and reminded of techniques and information that the researcher taught and demonstrated in the latent phase. After that, the researcher reviewed breathing techniques and asked subjects to demonstrate the techniques. Tangible support included providing physical care, helping with personal hygiene, massage, reassuring touch, helping to position the body, assisting with ambulation, helping to empty the bladder, and by giving ice chips or fluid. During teaching, the researcher used the flip-chart which consist of picture of cervix dilatation, uterine contraction and respiration technique, and effleurage technique in this program. If the subjects slept, the researcher did not disturb their sleep.

7.2.3 When the subjects have cervix dilated 5 centimeters in diameter, the research assistant observed and recorded the labor pain coping behavior during

their uterine contraction by using the labor pain coping behavior observation form. This observation was performed every 30 minutes until the cervix was dilated 8 centimeters in diameter. After that, the observations were performed every 15 minutes until the cervix was fully dilated.

7.2.4 During 8-24 hours postpartum period, the subjects were asked to answer the perception of childbirth experience questionnaire by the research assistant. It took about 15 minutes to complete it.

7.2.5 The researcher completed the obstetrical data form from start until the end of each labor. There are no maternal and fetal complications during this study.

8. The researcher collected and rechecked all data again.

9. The data were analyzed by statistical analysis.

Summary of data collection procedures was shown in Figure 8.

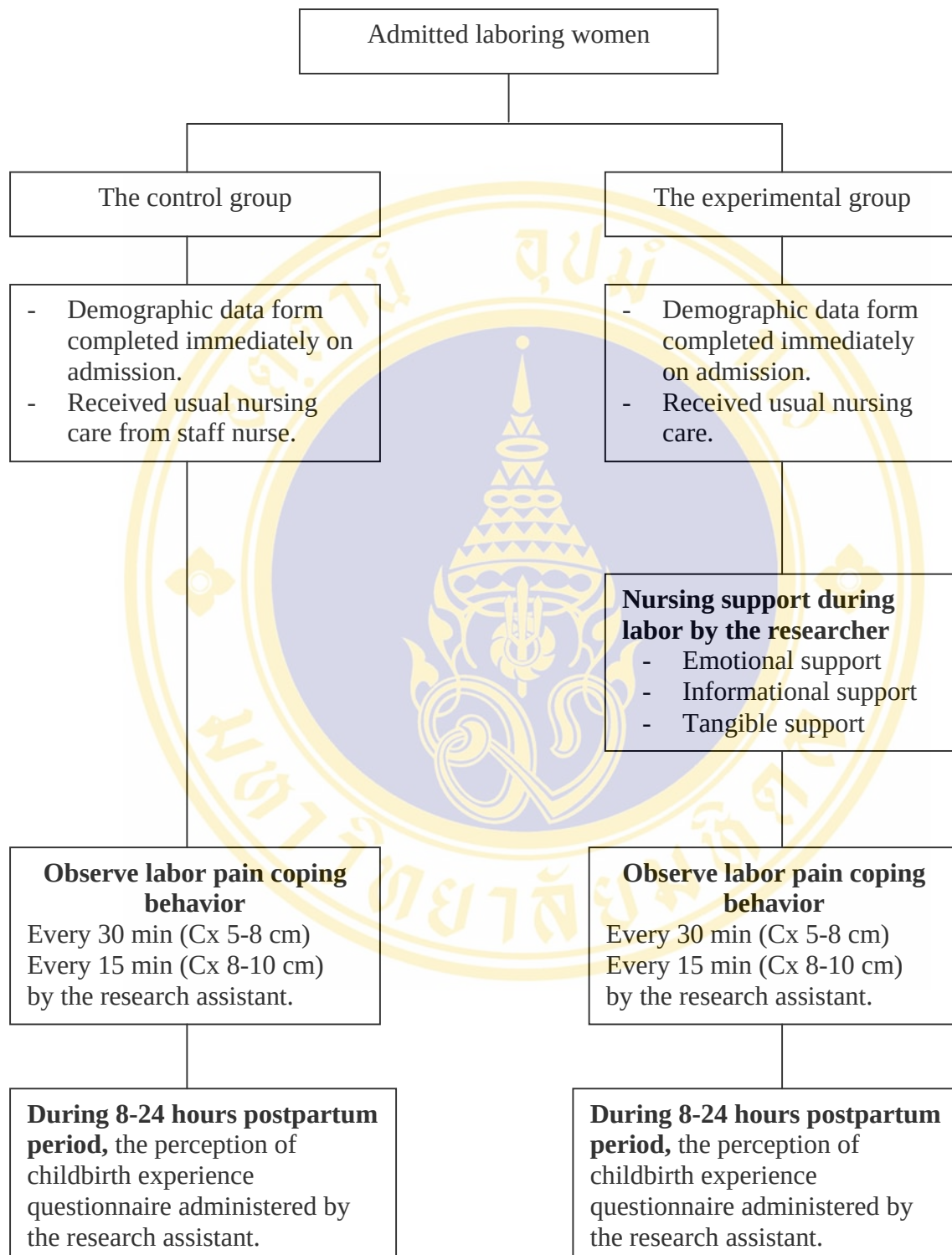
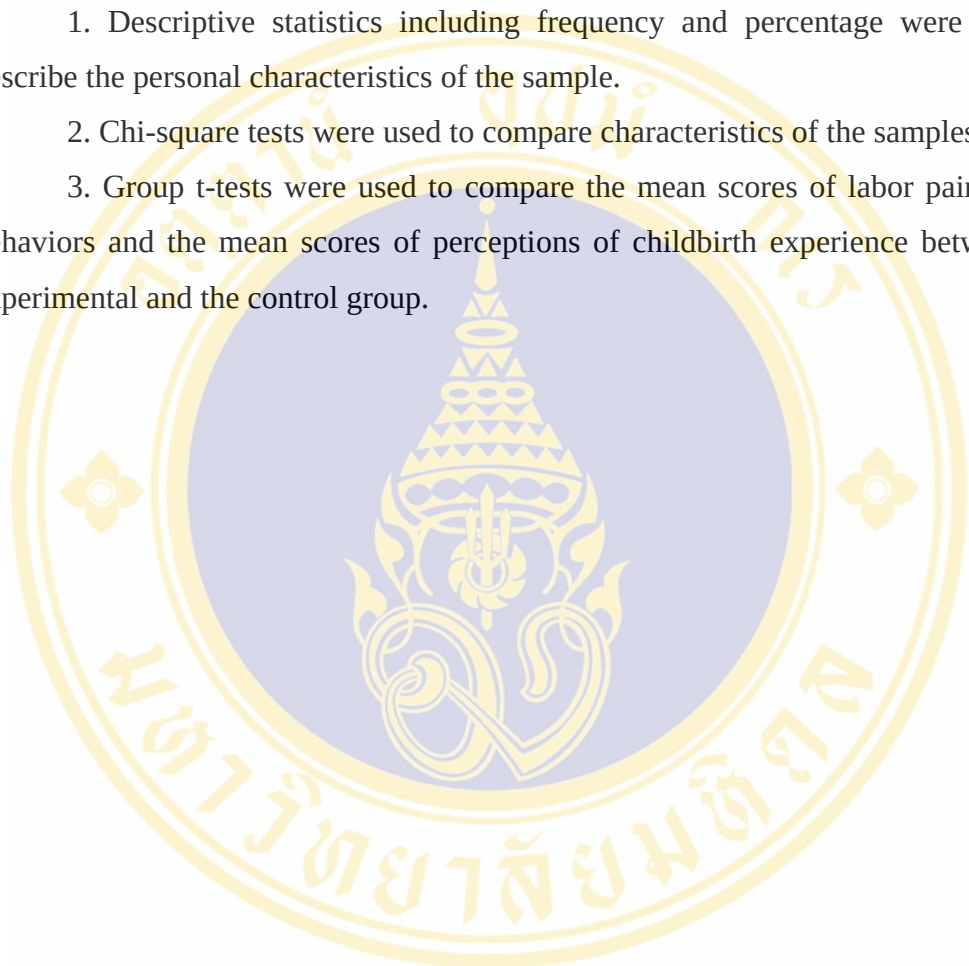


Figure 8: Process of collecting data

Data Analysis

The data were analyzed by using SPSS/FW version 11.5 (Statistical Package for the Social Sciences for window version 11.5) with the statistical level of significance at .05

1. Descriptive statistics including frequency and percentage were used to describe the personal characteristics of the sample.
2. Chi-square tests were used to compare characteristics of the samples.
3. Group t-tests were used to compare the mean scores of labor pain coping behaviors and the mean scores of perceptions of childbirth experience between the experimental and the control group.



CHAPTER IV

RESULTS

This study was a quasi – experimental research, designed to determine the effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience of first-time mothers. In this chapter, the findings of this study are presented as follows: characteristics of the sample, the labor pain coping behaviors scores, the perception of childbirth experience scores, and the results of hypotheses testing.

Characteristics of the Sample

The total subjects in this study were 60 first-time mothers who were admitted to and delivered a baby in the labor and delivery unit at Ramathibodi Hospital. The subjects were divided into two groups; experimental and control. Each group composed of 30 first-time mothers. The experimental group received nursing support during labor program together with the usual nursing care whereas the control group received only the usual nursing care. The expected factors that related to labor pain coping behaviors and the perception of childbirth experience of first-time mothers were analyzed to reveal the distribution and test their homogeneity between the studied groups. The results are shown in Table 1.

Table 1: Frequency, percent, range, mean, standard deviation, median, and mode of the samples' characteristics (n = 60)

Characteristics	Frequency	Percent
Age (years)		
18-19	4	6.7
20-35	56	93.3
Range = 18 - 33, Mean = 25.50 , SD = 4.25		
Education level (years)		
Primary school	12	20.0
Junior high school	6	10.0
Senior high school	13	21.7
Bachelor degree and higher	29	48.3
Range = 6 - 19, Mean = 12.08 , SD = 3.77		
Occupation		
Active	16	26.7
Sedentary	44	73.3
Family income (baht/month)		
Below 5,000	3	5.0
5,000 – 10,000	7	11.7
10,001-20,000	34	56.7
Over 20,000	16	26.7
Range = 5,000 - 75,000, Mean = 18,200 , SD = 10,637		
Median = 15,000, Mode = 20,000		
Pregnancy planning		
Planning	44	73.3
Unplanning	16	26.7
Meet expected neonate gender		
No	22	36.7
Yes	38	63.3
Artificial rupture of membranes		
No	9	15.0
Yes	51	85.0
Sedative medication		
No	13	21.7
Yes	47	78.3
Medical augmentation		
No	14	23.3
Yes	46	76.7

The results in Table 1 showed that age of the laboring women in both groups ranged between 18-33 years. The majority of the sample was 20-35 years old (93.3%), with a mean of 25.5 years. The number of years of education ranged between 6-19 years. The majority of the sample had finished bachelor degree (48.3%), with a mean of 12.08 years. The majority of the subjects worked in sedentary occupation (73.3%). The family income ranged between 5,000-75,000 baht per month. Most of the laboring women had income between 10,001 to 20,000 baht (56.7%), with a mean of 18,200 baht. Most subjects in both groups (73.3%) had planned pregnancies. Most of them (63.3%) accepted the meet expected neonate gender. Most of them (85%) also received artificial rupture of membrane. The majority (78.3%) received sedative medication and a similar percentage (76.7%) received medical augmentation.

However, when considering the sample's characteristics in each group, it was found that an average age of the laboring women in the control and the experimental groups were similar (Mean = 25.80; SD = 4.29 and Mean = 25.20; SD = 4.25, respectively). Moreover, the means of years of education (Mean = 12.57; SD = 3.60 and Mean = 11.60; SD = 3.94, in the control and the experimental groups respectively), and family income of the sample in two groups were also similar (Mean = 17,700; SD = 6,998.28 and Mean = 18,700; SD = 13,442.47, in the control and the experimental groups respectively). Almost of those characteristics, mean scores were quite similar.

The characteristics of the sample in the control and experimental groups that were continuous variables according to the level of measurement were analyzed by grouped t-test to test the homogeneity of these characteristics. The results showed that there were no statistically significant difference between the control and the experimental groups ($p > .05$), as showed in Table 2.

Table 2: Comparisons of samples' characteristics by grouped t-test (n = 60)

Characteristics	Control group (n=30)			Experimental group (n=30)			t
	Range	Mean	SD	Range	Mean	SD	
Age	18-33	25.80	4.29	18-33	25.20	4.25	.54 ^{ns}
Year of education	6-19	12.57	3.60	6-16	11.60	3.94	.99 ^{ns}
Family income	5,000-30,000	17,700.00	6,998.28	5,000-75,000	18,700.00	13,442.47	-.36 ns

^{ns} p > .05

The characteristics of the sample in the control and experimental groups that were categorized variables according to the level of measurement were analyzed by Chi-square to test the homogeneity of these characteristics. The results are presented in Table 3.

Table 3: Comparison of samples' characteristics by Chi-square test (n = 60)

Characteristics of the sample	Control group (n=30)		Experimental group (n=30)		χ^2
	n	%	n	%	
Occupation					.00 ^{ns}
Active	8	26.7	8	26.7	
Sedentary	22	73.3	22	73.3	
Pregnancy planning					.34 ^{ns}
Planned	23	76.7	21	70.0	
Unplanned	7	23.3	9	30.0	
Meet expected neonate gender					.00 ^{ns}
No	11	36.7	11	36.7	
Yes	19	63.3	19	63.3	
Artificial rupture of membranes					.13 ^{ns}
No	4	13.3	5	16.7	
Yes	26	86.7	25	83.3	
Sedative medication					.10 ^{ns}
No	6	20.0	7	23.3	
Yes	24	80.0	23	76.7	
Medical augmentation					.37 ^{ns}
No	6	20.0	8	26.7	
Yes	24	80.0	22	73.3	

^{ns} p > .05

The results in Table 3 showed that most of the samples in both groups engaged in sedentary occupation (73.3% in both groups). The number of the laboring women in both groups had planned pregnancies were more than had not planned (76.7% and 70.0%, in the control and the experimental groups respectively). There was an equal number in both groups accepted meet expected neonate gender (63.3% in both groups). Most of them received artificial rupture of membrane (86.7% and 83.3%, in the control and the experimental groups respectively). The majority of the subjects in the control and the experimental groups received sedative medication (80% and 76.7%, in the control and the experimental groups respectively). Furthermore, most of them received medical augmentation (80% and 73.3%, in the control and the experimental groups respectively).

The sample's characteristics in the control and experimental groups were compared by using Chi-square to test homogeneity of the sample. The results showed that occupation, pregnancy planning, meet expected neonate gender, artificial rupture of membrane, sedative medication, and medical augmentation were not statistically significant difference between both groups ($p>.05$). Therefore, the samples of both groups seemed to have homogeneity in the initial characteristics.

Table 4: Mean, standard deviation and duration of first stage, second stage and third stage of labor

Stage of labor	Control group			Experimental group		
	Mean	SD	Duration (min.)	Mean	SD	Duration (min.)
First stage	638 (10hr.38min.)	299 (4hr.59min.)	135-1260 (2hr.15min.-21hr.)	591 (6hr.51min.)	219 (3hr.39min.)	205-1055 (3hr.25min.-17hr.35min.)
Second stage	18	11	11 - 19	17	5	5 - 40
Third stage	6	3	1 - 11	5	3	1 - 11

Table 4 showed that mean scores of the first stage of labor in the experimental group were less than that in the control group. In experimental group; the mean score of first stage of labor were 6 hrs. 51 minute. SD were 3 hrs. 39 minute. and duration were 3 hrs.25 minute. - 17 hrs.35 minute. In control group; the mean score were 10 hrs.38 minute. SD were 4 hrs.59 minute. and duration were 2 hrs.15 minute. - 21 hrs. The second stage of labor in experimental group; the mean score were 17 min. SD were 5 minute. and duration were 5 – 40 minute. In control group; the mean score were 18 minute. SD were 11 minute. and duration were 11 – 19 minute. The third stage of labor in experimental group; the mean score were 5 minute. SD were 3 minute. and duration were 1 – 11 minute. In control group; the mean score were 6 minute. SD were 3 minute. and duration were 1 – 11 minute. Almost duration of stage of labor, mean scores in the experimental group were less than that in the control group.

Table 5: Range and mean of score of labor pain coping behavior

Subject group	Number of recording	Mean of recording	The range of score	Mean of score
Control group	6 - 18	12.64	9 - 19	14.60
Experimental group	6 - 14	11.18	15 - 21	19.43

Table 5 showed the score of labor pain coping behavior had starting when cervix dilated 5 centimeter and follow up every 30 minute until cervix dilated 8 centimeter and then follow up every 15 minute until childbirth. In experimental group; the ranged of recording were 6 – 14, the means of recording were 11.18, the ranged of score were 15 - 21 and the mean of score were 19.43. In control group; the ranged of recording were 6 – 18, the means of recording were 12.64, the ranged of score were 9 – 19 and the mean of score were 14.60.

Comparison mean scores of labor pain coping behaviors and the perception of childbirth experience between the control and experimental groups

Table 6: Comparison of samples' labor pain coping behavior mean score between control group and experimental group by using grouped t-test (n = 60)

Subject group	n	Possible scores	Min - Max	Mean	SD	df	t
Control group	30	7 - 21	9 - 19	14.60	2.27	58	-4.06***
Experimental group	30	7 - 21	15 - 21	19.43	2.34	58	

*** p < .001

The results in Table 6 showed that in the control group, the labor pain coping behavior scores ranged from 9 – 19 (Mean = 14.60, SD = 2.27), and After providing the intervention to the experimental group the labor pain coping behavior scores

ranged from 15 – 21 (Mean = 19.43, SD = 2.34). These scores used mean score of labor pain coping behavior observation of each sample.

To test the hypothesis 1 stated that *“The first-time mothers who received nursing support during labor program together with the usual nursing care will have better labor pain coping behaviors than that who received only the usual nursing care.”* was done with the comparison of the labor pain coping behavior mean scores between the control group and the experimental group by using group t-test. The result showed that mean score of labor pain coping behavior in the experimental group was significantly higher than that in the control group ($p < .001$) (Table 6). It meant that, after receiving the nursing support during labor program together with the usual nursing care, the first-time mothers had better labor pain coping behaviors than that who received only the usual nursing care. Therefore, the hypothesis 1 was supported.

Table 7: Comparison of samples’ perception of childbirth experience mean score between control group and experimental group by using grouped t-test (n = 60)

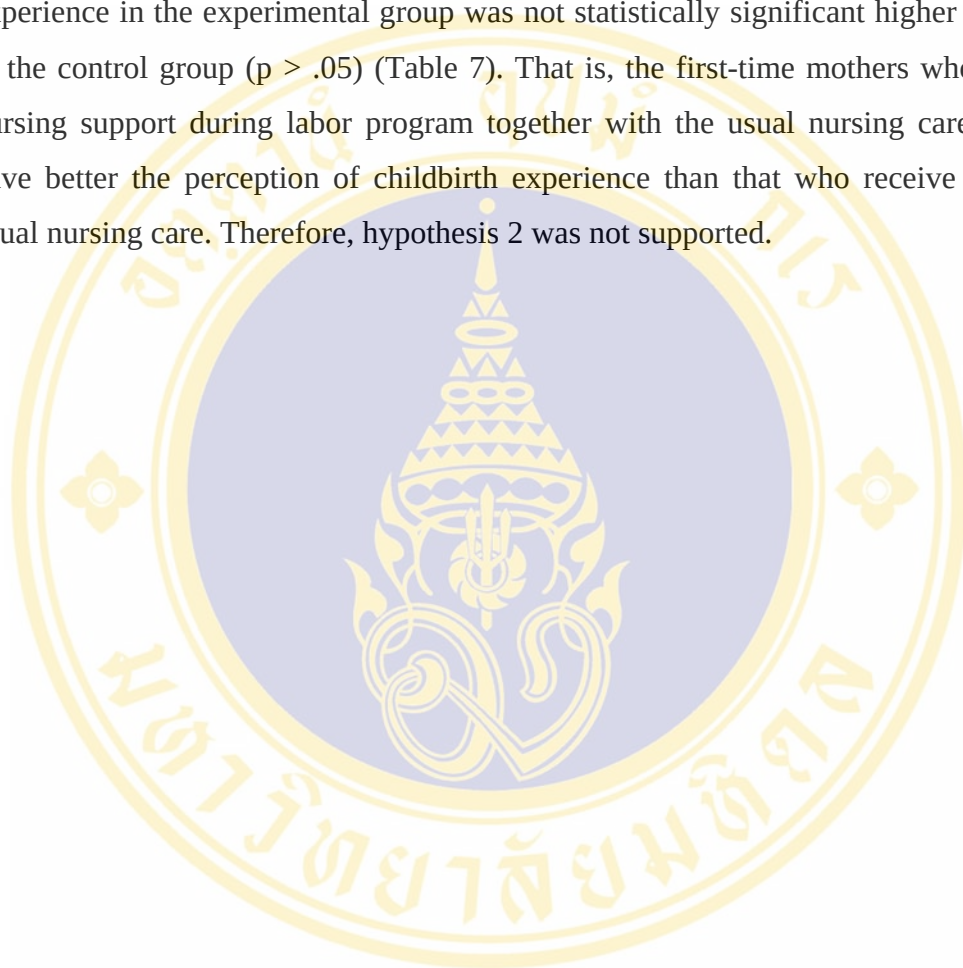
Subject group	n	Possible scores	Min - Max	Mean	SD	df	t
Control group	30	26-130	65-116	93.33	12.64	58	0.13 ^{ns}
Experimental group	30	26-130	69-106	94.10	9.58	58	

^{ns} $p > .05$

The results in Table 7 showed that the perception of childbirth experience mean scores were rather good and similar in both groups. In the control group, the perception of childbirth experience scores ranged from 65 - 116 (Mean = 93.33, SD = 12.64), and in the experimental group ranged from 69 - 106 (Mean = 94.10, SD = 9.58).

To test the hypothesis 2 stated that *“The first-time mothers who receive nursing support during labor program together with the usual nursing care will have*

better the perception of childbirth experience than that who receive only the usual nursing care.” was done with the comparison of the perception of childbirth experience mean scores between the control group and the experimental group by using group t-test. The result showed that mean score of the perception of childbirth experience in the experimental group was not statistically significant higher than that in the control group ($p > .05$) (Table 7). That is, the first-time mothers who receive nursing support during labor program together with the usual nursing care did not have better the perception of childbirth experience than that who receive only the usual nursing care. Therefore, hypothesis 2 was not supported.



CHAPTER V

DISCUSSION

This study was a quasi - experimental research designed to determine the effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience of first-time mothers. In this chapter, the findings of this study are discussed according to the following two hypotheses: First, first-time mothers who received the nursing support during labor program together with the usual nursing care (the experimental group) would have better labor pain coping behaviors than that who received only the usual nursing care (the control group). Second, first-time mothers who received the nursing support during labor program together with the usual nursing care (the experimental group) would have a better perception of the childbirth experience than that who receive only the usual nursing care (the control group).

Hypothesis 1 stated that *“The first-time mothers who received nursing support during labor program together with the usual nursing care (the experimental group) have better labor pain coping behaviors than that who received only the usual nursing care (the control group).”*

The mean score of labor pain coping behavior between the first-time mothers (the experimental group) who received nursing support during labor program together with the usual nursing care (Mean = 19.43; SD = 2.34) was statistical significantly higher than the first-time mothers (the control group) who received only the usual nursing care (Mean = 14.60; SD = 2.27) ($p < .001$). This result supported hypothesis 1 and this result is attributed to the following reasons:

Pregnancy and labor is often experienced as a life or event crisis that has physical, mental, emotional and social effects. Emotional reactions to pain are also dependent upon past conditions, the meaning that pain has for the person, and any anxiety about its cause and results. Anxiety about possible injury, loss or about the inability to cope with pain decreases the ability to maintain control over personal

behaviors and this loss of control can enhance feelings of terror and of an individual's self-perception of pain. Anxiety increases pain response. The perception of labor as painful and dangerous can lead to a build-up of fear until a "fear-tension-pain syndrome" develops. This fear stimulates additional stress that may, in turn, interfere with blood circulation and smooth muscle of uterine function, leading to stress in smooth muscles of the lower uterus and the cervix, interrupting the dilatation of the cervix and leading to increased pain during uterine contractions. Having the support of a significant other can help to break the vicious cycle of the fear-tension-pain syndrome. Mental and physical relaxation can also be achieved in a variety of ways: conscious relaxation, correct posture that helps minimize muscular stress, controlled breathing, and knowledge of the physiological process of labor. A conditioned response to stimuli occupies nerve pathways, thus dulling (closing the gate to) pain perception. Education of the mother about the birth process dispels misconceptions and superstitions, removing the ego-weakening effects of the unknown, and providing her with tools which to cope with pain in a more positive manner. Controlled breathing assists contractions and prevents or augments bearing down as appropriate.

The first-time mothers in the experimental group received information about the setting and personnel work, explaining hospital routines, progress of labor by using the flip-chart, the laboring women is aware of what is happening during labor, techniques to cope with labor pain during labor and delivery; relaxation, cutaneous stimulation, and breathing techniques.

There was an opportunity for the subjects to practice all of the techniques listed above (changing position, relaxation, breathing exercises, and focusing on breathing, as well as massage and effleurage), taught by the researcher during the latent phase. In addition, the researcher supported and promoted their self-efficacy by allowing the subjects to express their feelings about labor, complimenting them when the subjects practiced well, or admiring their abilities, throughout childbirth process. A flip-chart was used for explanation.

A good knowledge base can help pregnant women increase their labor coping abilities (Ladewig, London & Olds, 1994: 422) because knowledge can increase understanding and enhance personal confidence in dealing with situations during

labor, while decreasing fear and anxiety of unknown factors or misunderstandings caused by incorrect or incomplete information (Bask & Gold, 1982: 241). Reduction of anxiety and fear leads to pain relief since this reduction inhibits impulses from cerebral cortex and thalamus, resulting in closing the gate control for pain (Reeder & Martin, 1987: 500). In addition, received support promotes tolerance for uncomfortable feelings and decreases fear and anxiety during labor (Bask & Gold, 1982: 242). For these reasons, the pregnant women in experimental group were able to cope with their labor pain well.

Moreover, during the first stage of labor, pregnant women received coaching on positions, focusing on breathing, and relaxing of the muscles throughout the labor process. Changing positions can prevent fatigue, improve circulation, (Hassid, 1984: 110) and help women and labor to be more comfortable (Reeder, Martin & Koniak, 1997: 554; Pellitteri, 1995: 531). Moreover, the women are able to control themselves and their pain well (Bennelt & Brown, 1989: 181). Breathing techniques can distract pregnant women in labor from the pain. These techniques force them to concentrate on performing specific breathing patterns (Kuczynski, 1984: 190). Breathing in a relaxed manner can potentially reduce the occurrences of panic responses to stressful stimuli such as uterine contractions (Nichols & Humick, 1988: 220). Bask and Gold (1982: 242) stated that techniques for relieving pain can promote the adaptation mechanism and can thereby help laboring women to avoid inappropriate behaviors. Also, support during labor can assist women in enduring pain, in reducing fear (Vateraus, 1979 cited by Jantarapat, 1990: 31), in changing negative feelings into positive feelings, and in encouraging women to positively confront future situations (Suwannakot, 1984: 464), thus helping them to overcome crises during labor. For these reasons, the first-time mothers in the experimental group who received nursing support during labor program together with the usual nursing care had better labor pain coping behaviors than that in the control group who received only the usual nursing care. Thus, providing nursing support during labor program in the first-time mothers are important intervention that nurses could be add for them.

The results were consistent with Sukpinush Sankasuwan (B.E.2543: 70) who found that primiparas who received preparation for childbirth had better labor pain coping behavior than the primiparas who did not. According to the study of Rossukon

Limtavong (B.E.2530: 56), pregnant women who received preparation for childbirth had a significant higher labor pain coping behavior score than that who did not.

Hypothesis 2 stated that *“The first-time mothers who received nursing support during labor program together with the usual nursing care (the experimental group) have better perceptions of childbirth experience than that who receive only the usual nursing care (the control group).”*

At the end of the study it was found that the first-time mothers in the experimental group (Mean = 94.10; SD = 9.58) had rather high score of the perception of childbirth experience as well as the first-time mothers in the control group (Mean = 93.33; SD = 12.64) ($p > .05$). This indicates that the first-time mothers who received the nursing support during labor program together with the usual nursing care had perceptions of childbirth experience that was not any better than the perceptions of childbirth of the first-time mothers who receive only the usual nursing care (the control group).

Perception of childbirth experience is defined as the sense, opinions and meanings that a woman has about every situation during the different stages of labor. Perceptions of the childbirth experience are different for each mother, some positive, some negative, and there are many factors that lead to different perceptions of childbirth. One important factor that can affect perceptions of the childbirth experience is the duration of labor; mothers who have shorter labors have more positive perceptions of the childbirth experience (Suprennee Athaseri & Yaowalak Serisathien, B.E.2531: 27-28). The results of this study showed that mean scores of the first stage of labor in the experimental group were less than that in the control group. Psychosocial factors include early interaction with the baby, support from husband during labor, experience of positive life events the year prior to birth, and higher total positive self-image related to positive perceptions of the childbirth experience (Mercer, 1985: 204-209).

Beginning when the cervix is dilated at 3-4 centimeters, the researcher began coaching the women in the experimental group and teaching them labor pain coping behaviors. These techniques are designed to help to relieve pain and thereby increase positive perceptions of the childbirth experience. The usual nursing care begins

during labor and also helps mothers to cope with labor pain.

In this nursing support during labor program, the subjects could express their feelings about labor and delivery. Having the opportunity to express these feelings can help to change attitudes of the women who fear of labor and delivery (Kuczynski, 1984: 188). The researcher provided opportunity for the women to visit the labor and delivery unit beforehand in order to familiarize them with the environment and to help relieve fear and anxiety. Perception of the childbirth experience should be more positive if fear and anxiety are relieved or muted beforehand (Clark, Affonso & Harris, 1979: 350-352).

During first stage of labor, the researcher stayed nearby and acted as a friend to the laboring women in order to alleviate their fear and anxiety to some degree. Women who are confident on the best ways to behave during labor will be able to confront the situation well, which leads to increased self-esteem. Furthermore, good care from the researcher is a factor that has affected the perceptions of the childbirth experience in other setting (Clark, Affonso & Harris, 1979: 345-356).

Athaseri, Chatpothong and Serisathien (B.E.2533: 60) found that mothers who received psychological nursing support had better perception of childbirth experience scores than mothers who received normal care. Cogan's study (cited by Nichols & Humenick, 1988: 58) found that the pregnant women who received childbirth preparation had positive perceptions of childbirth experience more often than the pregnant women who did not. Churhaum's study (1991: 50) discovered that pregnant women who received childbirth preparation had a higher mean score of perception of childbirth experience than the pregnant women who did not.

According to recent studies, women supported by doulas or midwives benefit by experiencing shorter labors and lower rates of epidural anesthesia and cesarean section deliveries. Also, a smaller percentage of their newborns experience fetal distress and/or are admitted to neonatal intensive care units (Keenan, 2000: 66-74).

Scott, Klaus and Klaus (1999: 1257-1264) found that for women who received doula support during childbirth, this form of emotional and physical support significantly shortens labor and decreases the need for cesarean deliveries, forceps and vacuum extraction, oxytocin augmentation, and analgesia. Doula-supported

mothers also rate childbirth as less difficult and painful than do women not supported by a doula. Eight of the 12 trials report early or late psychosocial benefits of doula support. Early benefits include reductions in state anxiety scores, positive feelings about the birth experience, and increased rates of breastfeeding initiation. The results of these 12 trials strongly suggest that doula support is an essential component of childbirth. A thorough reorganization of current birth practices is in order to ensure that every woman has access to continuous emotional and physical support during labor. Women who had attended childbirth preparation classes had higher overall satisfaction scores than that who did not. The researchers think this is because having a partner who is involved and supportive during the childbirth experience is very important.

At Ramathibodi Hospital's labor unit, in the period during data collection, the labor unit provided a primary nursing system to support laboring women. This protocol has support similar to the nursing support during labor program. When a laboring woman is admitted, she receives care from a staff nurse. This nurse takes care of the laboring woman continuously throughout the stages of labor and delivery. She provides procedures to support the laboring woman, such as information about the progress of labor, techniques to cope with labor pain during labor and delivery, and breathing techniques. When the first-time mothers in control group received well supported. Fear and anxiety of labor can reduce. Thus, the first-time mothers in control group had positive perception of childbirth experience. In addition, the subjects in both groups were asked to answer the perception of childbirth during 8-24 hours of postpartum period. This period passed the stress event. It may affect to perception of childbirth. And because of the similarity with the nursing support during labor program used by the researcher, the primary nursing system already in place affected the outcomes of this research study. Thus, the first-time mothers who received the nursing support during labor program together with the usual nursing care had perceptions of childbirth experience that was not any better than the perceptions of childbirth of the first-time mothers who receive only the usual nursing care.

CHAPTER VI

CONCLUSION

This study was a quasi – experimental research project, designed to determine the effects of nursing support during labor on labor pain coping behaviors and the perception of childbirth experience of first-time mothers. It was conducted based on the theoretical framework of Lazarus and Folkman (1984). The subjects were the first-time mothers who were admitted to and delivered their babies in the labor and delivery unit at Department of Obstetrics-Gynecology, Faculty of Medicine, Ramathibodi Hospital, Bangkok, during May to October 2004. Sixty subjects were selected by purposive sampling technique according to the inclusion criteria and divided into two groups, a control group and an experimental group; each group consisted of 30 samples.

The instruments used in this study consisted of intervention and data collection instruments. The instruments for intervention were the guidelines for nursing support during labor and a flip-chart, both of which were developed by the researcher. The instruments for data collection included the Demographic Data Form, the Labor Pain Coping Behavior Observation Form, and the Perception of Childbirth Experience Questionnaire. Data collection commenced after permission to conduct the study from the Committee on Human Rights, the Faculty of Medicine, Ramathibodi Hospital, Mahidol University, the Dean of Faculty of Medicine, Ramathibodi Hospital, the Co-ordinator of Obstetrics and Gynecological department, the head nurse of the labor and delivery unit, and the head nurse of the postpartum unit. The subjects who met the inclusion criteria were approached. The researcher provided information regarding the study and asked for their consent to participate in the study. The demographic data of the subjects in both groups were collected. Then, the subjects in the control group received the usual nursing care provided by the staff nurses, while the women in the experimental group received usual nursing care together with nursing support during labor, using the program provided by the researcher, according to the determined guidelines. The labor pain coping behaviors

during the uterine contractions of the subjects in both groups were observed by a research assistant once the cervix dilated 5 centimeters. The observations were performed every 30 minutes until cervix was dilated 8 centimeters. Later observations were performed by the research assistant every 15 minutes until cervix was fully dilated. During the 8-24 hours postpartum period, the subjects in both groups were administered the questionnaire and were asked to answer the perception of childbirth experience questionnaire by the research assistant.

All of the data were analyzed using Statistical Analysis. The subjects' demographic data were analyzed using descriptive statistic techniques and the demographic characteristics of the subjects in both groups were compared by Group t-test and Chi-square test. Comparison mean scores of labor pain coping behaviors and the perception of childbirth experience between the control group and the experimental group were done by using Group t-test and Chi-square test. The findings of the study showed that the mean score of labor pain coping behavior of the experimental group who received nursing support during labor program together with the usual nursing care were higher than the control group who received only the usual nursing care with a statistically significant difference ($p < .001$). The mean scores of the perception of childbirth experience of the experimental group who received nursing support during labor program together with the usual nursing care were higher than the control group who received only the usual nursing care with a statistically non-significant difference ($p > .05$).

From this study, it can be surmised that the nursing support during labor program can help the first-time mothers have better labor pain coping behavior.

Recommendations

The findings of this study contains several implications for the nursing professional, including nursing practice, nursing education, and nursing research.

Nursing Practice

1. The results of this study show that the first-time mothers who received nursing support during labor program together with the usual nursing care had better labor pain coping behavior scores than the first-time mothers who received only the usual nursing care. However, there is no difference in the perception of childbirth

experience. Therefore, the nursing support during labor program should be provided to the first-time mothers when they are admitted to labor, and nurses should help and support them including emotional, informational, and tangible support. Therefore, this intervention should be instituted as policy for caring for laboring women in order to assist these women in reducing feelings of fear, anxiety and to help them cope with labor pain during childbirth. However, nurses should be trained before implementing these practices in order to understand how to provide emotional, informational, and tangible support.

2. From the study, the intervention provided to the laboring women is an important strategy for helping laboring women during a time of crisis, contributing to the development of trust and rapport. The laboring women felt that the nurse shared their concerns. Thus, the nurse at labor and delivery unit should also display concern and realize that the laboring woman is in a crisis situation. In this way the nurse can provide strong support to help achieve holistic care and promote high quality of health care services.

3. An individual nurse should be assigned to take care of each laboring woman during childbirth. Therefore, a nurses can apply nursing support during labor program (emotional, informational and tangible support) combined with the usual nursing care.

4. Nurses should be concern and collaborate with other personnel in order to provide effective care and support to decrease pain coping behavior.

Nursing Education

1. The nursing support during labor program should be included in educational programs for nursing students and for nurses who work in labor and delivery rooms at hospitals.

2. Nursing students should be assigned to practice nursing support during labor during their clinical experiences, such as providing individual nursing care for laboring women so that they can apply nursing support techniques in order to better manage, plan, and provide appropriate nursing care.

Nursing Research

The suggestions of further studies are as follows:

1. Study the effects of the nursing support during labor program on other groups such as in-group of pregnancy-induced hypertension and premature labor pain mothers.
2. Study the effects of the nursing support during labor program on the levels of anxiety and satisfaction of nursing for laboring women.

Limitations of the Study

The researcher cannot control the environment in Obstetric-Gynecology ward, such as sounds, working forms, advice from nursing students, medical students, staff nurses and physicians, which might affect on labor pain coping behaviors and the perception of childbirth experience of the first-time mothers.

There is an imerge of primary nursing system in labor room during the research was going on, so the effective of this program on childbirth experience was not found.

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APPENDIX A

LIST OF EXPERTS

There were five experts, who had validated the content of research instruments including the nursing support during labor guideline and the flip-chart. They were

1. Assistant Professor Unapha Phoolsilpe,
Department of Nursing,
Faculty of Medicine, Ramathibodi Hospital, Mahidol University.
2. Assistant Professor Dr. Srisamorn Phumonsakul,
Department of Nursing,
Faculty of Medicine, Ramathibodi Hospital, Mahidol University.
3. Instructor Tassanee Pruksacheva,
Department of Nursing,
Faculty of Medicine, Ramathibodi Hospital, Mahidol University.
4. Assistant Professor Dr. Yaowalak Serisathien,
Department of Obstetrics and Gynecology,
Faculty of Nursing, Mahidol University.
5. Assistant Professor Dr. Nittaya Sinsuksai,
Department of Obstetrics and Gynecology,
Faculty of Nursing, Mahidol University.

APPENDIX B

แบบพินิจสิทธิ์

สำหรับกลุ่มควบคุม

สวัสดีค่ะ ดิฉัน นางสาววิภารัตน์ สอดส่อง เป็นนักศึกษาพยาบาลปริญญาโท หลักสูตรพยาบาลศาสตรมหาบัณฑิต คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล มีความสนใจที่จะศึกษาผลของการพยาบาลแบบสนับสนุนระดับประจักษ์ในระบะคลอดต่อพฤติกรรมการเผชิญความเจ็บปวดและการรับรู้เกี่ยวกับประสบการณ์การคลอดของมารดาครรภ์แรก เพื่อเป็นประโยชน์ในการวางแผนการพยาบาลแก่มารดาครรภ์แรกต่อไป จึงใคร่ขอความร่วมมือจากคุณ.....ตอบแบบสอบถามแบบบันทึกข้อมูลส่วนบุคคล และแบบสอบถามการรับรู้เกี่ยวกับประสบการณ์การคลอด ซึ่งจะใช้เวลาครั้งละประมาณ 20-30 นาที คุณมีสิทธิ์จะตอบรับหรือปฏิเสธการตอบแบบสอบถาม ครั้งนี้ได้ ในระหว่างการศึกษาค้นคว้าคุณมีสิทธิ์จะบอกเลิกได้ตามต้องการ โดยไม่มีผลต่อการรักษาหรือบริการที่คุณจะได้รับ การตอบแบบสอบถามนี้ไม่มีคำตอบถูกหรือผิด คุณสามารถเลือกตอบตามความรู้สึกที่แท้จริงของคุณ และคำตอบของคุณจะถือเป็นความลับและนำมาใช้เฉพาะในการศึกษาวิจัยครั้งนี้เท่านั้น ถ้าคุณตัดสินใจให้ความร่วมมือในการศึกษาครั้งนี้ กรุณาเซ็นชื่อด้วยค่ะ ขอบขอบคุณที่ให้ความร่วมมือ

นางสาววิภารัตน์ สอดส่อง
(ผู้วิจัย)

ลงชื่อ.....

(.....)

ผู้เข้าร่วมวิจัย

สำหรับกลุ่มทดลอง

สวัสดิ์ค่ะ ดิฉัน นางสาววิภารัตน์ สอดส่อง เป็นนักศึกษาพยาบาลปริญญาโท หลักสูตรพยาบาลศาสตรมหาบัณฑิต คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล มีความสนใจที่จะศึกษาผลของการพยาบาลแบบสนับสนุนระดับประจักษ์ในระยะคลอดต่อพฤติกรรมการเผชิญความเจ็บปวดและการรับรู้เกี่ยวกับประสบการณ์การคลอดของมารดาครรภ์แรก เพื่อเป็นประโยชน์ในการวางแผนการพยาบาลแก่มารดาครรภ์แรกต่อไป จึงใคร่ขอความร่วมมือจากคุณ.....ตอบแบบสอบถามแบบบันทึกข้อมูลส่วนบุคคล และแบบสอบถามการรับรู้เกี่ยวกับประสบการณ์การคลอด ซึ่งจะใช้เวลาครั้งละประมาณ 20-30 นาที คุณมีสิทธิจะตอบรับหรือปฏิเสธการตอบแบบสอบถาม ครั้งนี้ได้ ในระหว่างการศึกษาค้นคว้าคุณมีสิทธิจะบอกเลิกได้ตามต้องการ โดยไม่มีผลต่อการรักษาหรือบริการที่คุณจะได้รับ การตอบแบบสอบถามนี้ไม่มีคำตอบถูกหรือผิด คุณสามารถเลือกตอบตามความรู้สึกที่แท้จริงของคุณ และคำตอบของคุณจะถือเป็นความลับและนำมาใช้เฉพาะในการศึกษาวิจัยครั้งนี้เท่านั้น ในระหว่างการศึกษาค้นคว้าคุณจะได้รับ การพยาบาลแบบสนับสนุนระดับประจักษ์ในระยะคลอดจากดิฉันตลอดระยะเวลาของการคลอด โดยจะให้ความช่วยเหลือระดับประจักษ์ด้านอารมณ์และจิตใจ ด้านการให้ข้อมูลเกี่ยวกับการคลอด และสิ่งที่คุณต้องการทราบ และการให้ความช่วยเหลือด้านความสุขสบายและความปลอดภัยจากการคลอด คุณมีสิทธิจะตอบรับหรือปฏิเสธการเข้าร่วมวิจัยครั้งนี้ได้ ในระหว่างการศึกษาค้นคว้าคุณมีสิทธิจะบอกเลิกได้ตามต้องการ โดยไม่มีผลต่อการรักษาหรือบริการที่คุณจะได้รับ ถ้าคุณตัดสินใจให้ความร่วมมือในการศึกษาครั้งนี้ กรุณาเซ็นชื่อด้วยค่ะ ขอขอบคุณที่ให้ความร่วมมือ

นางสาววิภารัตน์ สอดส่อง

(ผู้วิจัย)

ลงชื่อ.....

(.....)

ผู้เข้าร่วมวิจัย

APPENDIX C

แบบสอบถามข้อมูลทั่วไปของผู้คลอด

แบบสอบถามเลขที่.....วันที่.....

HN:.....

ข้อมูลส่วนบุคคล

1. ปัจจุบันท่านอายุ.....ปี ส่วนสูง.....เซนติเมตร
2. ท่านจบการศึกษาชั้น.....
3. อาชีพ.....
4. รายได้ของครอบครัวต่อเดือน (ของตนเองและสามีรวมกัน).....บาท
5. การวางแผนการตั้งครรภ์ครั้งนี้
☐ วางแผน ☐ ไม่ได้วางแผน

ข้อมูลเกี่ยวกับการคลอด

6. LMP..... EDC..... อายุครรภ์.....สัปดาห์
7. เริ่มเจ็บครรภ์จริงเวลา.....น., วันที่.....
 ฤกษ์น้ำคร่ำแตกเวลา.....น., วันที่.....() SROM () AROM
 เริ่มเบ่งเวลา.....น., วันที่.....
 เด็กเกิดเวลา.....น., วันที่.....
 รกคลอดเวลา.....น., วันที่.....
 ระยะที่ 1 ของการคลอด.....ชั่วโมง.....นาที
 ระยะที่ 2 ของการคลอด.....ชั่วโมง.....นาที
 ระยะที่ 3 ของการคลอด.....ชั่วโมง.....นาที
8. การเร่งคลอด
☐ ไม่ได้รับการเร่งคลอด
☐ ได้รับการเร่งคลอด เวลา.....น. วันที่.....

9. การได้รับยาแก้ปวด

() ไม่ได้รับยา

() ได้รับยา.....

จำนวนยา.....จำนวนครั้ง.....

ระยะเวลาที่ได้รับยาจนถึงเวลาคลอด.....ชั่วโมง.....นาที

10. เพศของทารก ชาย หญิง

() เป็นไปตามที่คาดหวัง () ไม่เป็นไปตามที่คาดหวัง

11. น้ำหนักทารกเมื่อแรกเกิด.....กรัม

12. คะแนน Apgar score นาที ที่ 5.....นาที ที่ 10.....

13. ทำคลอดโดย.....

APPENDIX D

แบบสังเกตพฤติกรรมการเผชิญความเจ็บปวดของสตรีมีครรภ์ในระยะคลอด

แบบสอบถามเลขที่.....วันที่.....

พฤติกรรม	ครั้งที่	1	2	3	4	5	6	7	8	9	10
	เวลา										
1. facial expressions (ด้านการแสดงออกทางใบหน้า) 1.1 - กล้ามเนื้อใบหน้าผ่อนคลาย, สีหน้าปกติ 3 - หน้ามึนหรือขมวด, สีหน้าเปลี่ยนไป 2 - เกร็งกล้ามเนื้อใบหน้า, หน้าตาบิดเบี้ยว 1 1.2 - 3 - 2 - 1	คะแนน										
2. verbalization (ด้านคำพูด) - ไม่พูด หรือพูดด้วยคำพูดที่แสดงถึงความพยายาม หรือความอดทน เช่น ไม่เจ็บมาก, นันทนได้ 3 - พูดถึงความเจ็บปวดบ่อยครั้ง เช่น ปวดจังเลย, ปวดเหลือเกิน หรือร้องขอความช่วยเหลือเป็นบางครั้ง 2 - พูดว่าทนต่อไปไม่ได้ เช่น ไม่ไหวแล้ว, ไม่เอาแล้ว หรือร้องขอความช่วยเหลือบ่อยครั้งหรือตลอดเวลา 1											
3. tone of voice (ด้านการออกเสียง) - 3 - 2 - 1											

พฤติกรรม	ครั้งที่	1	2	3	4	5	6	7	8	9	10
	เวลา										
4. body movement (ด้านการเคลื่อนไหวร่างกาย) - เคลื่อนไหวลำตัว หรือแขน ขา เล็กน้อย - บิดตัวไปมา มากกว่าปกติ - บิดตัวไปมา อย่างกระสับกระส่ายมาก หรือ ผลุดลุก ผลุดนั่ง	คะแนน 3 2 1										
5. degree of relaxation (ด้านระดับการผ่อนคลาย) - - -	3 2 1										
6. control breathing (ด้านการควบคุมการหายใจ) - - -	3 2 1										
รวมคะแนน											
Maternal respiration (ครั้ง/นาที)											
การเปิดขยายของปากมดลูก (ซ.ม.)											
เวลาของการหดตัวของมดลูก (D/I)											
ความแรงของการหดตัวของมดลูก (intensity)											
เสียงหัวใจทารก (ครั้ง/นาที)											

APPENDIX E

แบบสอบถามการรับรู้เกี่ยวกับประสบการณ์การคลอด

แบบสอบถามเลขที่.....วันที่.....

คำชี้แจงในการตอบแบบสอบถาม

โปรดอ่านข้อความแต่ละข้อแล้วทำเครื่องหมาย ✓ ในช่องตารางที่มีตัวเลข ซึ่งตรงกับความเป็นจริง ตามความรู้สึกของท่านมากที่สุด เพียงคำตอบเดียว กรุณาตอบทุกข้อ การเลือกตอบถือเกณฑ์ดังนี้

- หมายเลข 1 หมายถึง ไม่เป็นความจริงเลย คือ เมื่อท่านเห็นว่าข้อความนั้น ไม่ตรงกับความรู้สึก และความคิดเห็นของท่านเลย
- หมายเลข 2 หมายถึง เป็นความจริงบ้างเล็กน้อย คือ เมื่อท่านเห็นว่าข้อความนั้น ตรงกับความรู้สึก และความคิดเห็นของท่านบ้างเล็กน้อย
- หมายเลข 3 หมายถึง เป็นความจริงเพียงครึ่งหนึ่ง คือ เมื่อท่านเห็นว่าข้อความนั้น ตรงกับความรู้สึก และความคิดเห็นของท่าน ประมาณครึ่งหนึ่ง
- หมายเลข 4 หมายถึง เป็นความจริงเป็นส่วนมาก คือ เมื่อท่านเห็นว่าข้อความนั้น ตรงกับความรู้สึก และความคิดเห็นของท่าน ส่วนมากแต่ไม่ทั้งหมด
- หมายเลข 5 หมายถึง เป็นความจริงมากที่สุด คือ เมื่อท่านเห็นว่าข้อความนั้น ตรงกับความรู้สึก และความคิดเห็นของท่านมากที่สุด หรือทั้งหมด

ตัวอย่าง

ข้อความ	ไม่เป็น ความจริง เลย (1)	เป็นความ จริงบ้าง เล็กน้อย (2)	เป็นความ จริงเพียง ครึ่งหนึ่ง (3)	เป็นความ จริงเป็น ส่วนมาก (4)	เป็นความ จริงมากที่สุด (5)
ก. ท่านมีโอกาสดำเนินการตัดสินใจว่า จะคลอดเองหรือคลอดด้วยการผ่าตัด	✓				

หมายถึง ท่านไม่มีโอกาสดำเนินการตัดสินใจว่า จะคลอดเองหรือคลอดด้วยการผ่าตัด

ข้อความ	ไม่เป็น ความจริง เลย (1)	เป็นความ จริงบ้าง เล็กน้อย (2)	เป็นความ จริงเพียง ครึ่งหนึ่ง (3)	เป็นความ จริงเป็น ส่วนมาก (4)	เป็นความ จริงมากที่ สุด (5)
<u>ในขณะที่เจ็บครรภ์คลอดมีการหดตัว</u>					
1. ท่านสามารถหายใจลึกๆ ช้าๆ เพื่อเบี่ยงเบน ความสนใจจากความเจ็บปวด และช่วย บรรเทาความเจ็บปวด					
2.					
3.					
4.					
5.					
6.					
7.					
8. ท่านมีความรู้สึกทุกข์ ทรมานมาก					
9. ท่านรู้สึกรำคาญ ในขณะที่แพทย์และพยาบาล ตรวจหน้าท้อง หรือตรวจภายใน					
10.					
11.					
<u>ในขณะที่คลอด</u>					
12. ท่านสามารถควบคุมตนเองได้ โดยไม่ดิ้นหรือ ร้องเอะอะ โวยวาย					
13.					

ข้อความ	ไม่เป็น ความจริง เลย (1)	เป็นความ จริงบ้าง เล็กน้อย (2)	เป็นความ จริงเพียง ครึ่งหนึ่ง (3)	เป็นความ จริงเป็น ส่วนมาก (4)	เป็นความ จริงมากที่ สุด (5)
14.					
15.					
16. ท่านมีความรู้สึกทุกข์ ทรมานมาก					
17. ท่านมีความรู้สึกหวาดกลัว					
18.					
19.					
<u>ภายหลังคลอด</u>					
20. ท่านรู้สึกพอใจ ในการได้สัมผัสหรือจับตัวลูก ทันทีในครั้งแรก					
21.					
22.					
23.					
24.					
25. ท่านรู้สึกว่าประสบการณ์ที่ได้รับจากการ คลอดเป็นไปตามที่ท่านคิดเอาไว้ ก่อนการเจ็บ ครรภ์					
26. ท่านรู้สึกพึงพอใจ และเป็นสุข เมื่อนึกถึงการ คลอดครั้งนี้					

APPENDIX F

แผนการพยาบาลแบบสนับสนุนประคับประคองในระยะคลอด

กลุ่มเป้าหมาย ผู้คลอดครรภ์แรกที่มีอายุครรภ์ 37-42 สัปดาห์

สถานที่ ห้องคลอด โรงพยาบาลรามาธิบดี

ผู้นำ นางสาววิภารัตน์ สอดส่อง

วัตถุประสงค์ทั่วไป

1. ผู้คลอดคลายความวิตกกังวลและความกลัวต่อการคลอด
2. ผู้คลอดมีความมั่นใจในการเผชิญกับสถานการณ์ในระยะคลอด
3. ผู้คลอดมีพฤติกรรมในการเผชิญความเจ็บปวดในระยะคลอดได้เหมาะสม

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โอเดียนสโตร์.

APPENDIX G

The Flip-chart

รูปแสดงวิธีการดูหน้าท้อง

รูปแสดงการเปิดขยายของปากมดลูก

รูปแสดงวิธีการหายใจและการหดตัวของมดลูก



BIOGRAPHY

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