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**EFFECTS OF CHILDBIRTH PREPARATION CLASSES
ON SELF-EFFICACY IN COPING WITH LABOR PAIN
IN THAI PRIMIPARAS**

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SELF-EFFICACY IN COPING WITH LABOR PAIN IN THAI
PRIMIPARAS**

by

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Dedication

To my family and the Royal Thai Government

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Effects of Childbirth Preparation Classes on Self-Efficacy in Coping with Labor Pain in Thai Primiparas

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The purpose of this study is to determine the effect of childbirth preparation classes on self-efficacy in coping with labor pain in Thai primiparas. The non-probability convenience sample consisted of sixty primiparas assigned to either a control or an experimental group (thirty in each group). In order to prevent cross-contamination, all control group data were collected before initiating enrollment of the experimental group. The control group participants received standard care and education. Participants in the experimental group attended three childbirth classes over three consecutive weeks. Data were collected at the beginning of week 1 to establish a baseline (pretest), at the end of the third class which is the end of the intervention (posttest), and at 24-48 hours after delivery (follow-up) using a demographic form, postnatal data form, and the Childbirth Self-efficacy Inventory.

Overall, experimental group self-efficacy expectancy increased dramatically across three data points. In contrast, control group self-efficacy expectancy decreased dramatically across three data points. There was an interaction between time of self-efficacy expectancy measurement and group, $F(1.33, 71.77) = 6.34, p < .05$. Self-efficacy expectancy in the experimental group was significantly different than that of the control group, $F(1, 54) = 14.66, p < .001$. Outcome expectancy findings were different than self-efficacy expectancy results. Control group outcome expectancy decreased dramatically across three data points while the experimental group self-efficacy increased after the class and then decreased after the birth but was higher than baseline. There was an interaction between time of outcome expectancy measurement and group, $F(1.72, 935.18) = 4.83, p < .05$. Data at the follow-up or 24-48 hours after delivery revealed that only one woman from the control group received an analgesic during the birthing process. The groups did not differ in duration of labor and type of delivery. These findings indicate partial effect of childbirth preparation classes on self-efficacy in coping with labor pain. The relatively small effect size reflects the high degree of variability in issues surrounding a woman's experience of pain and measures related to self-efficacy in coping with labor pain. Additional research in this population is needed.

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CHAPTER ONE

INTRODUCTION

Labor pain has been portrayed as a fearsome, painful and life-threatening part of childbirth and it ranks high among the most intense pains experienced by women (Brownridge, 1995; Melzack, 1984). Although every woman copes with labor differently and some women adopt their own ways of dealing with labor pain (Yerby, 2000), an effective strategy to help women manage labor pain is to increase their perceived self-efficacy by increasing their knowledge of labor and labor care techniques. In particular, increasing self-efficacy through prenatal education has been shown to increase a woman's ability to cope with labor pain, to increase childbirth satisfaction, to decrease the use of epidural anesthesia, and to encourage the use of various childbirth options.

Self-efficacy has consistently been found to play an important role in the childbirth experience and in coping with labor pain (Capik, 1998; Crowe & von Baeyer, 1989; Dilks & Beal, 1997; Larsen, O'Hara, Brewer, & Wenzel, 2001; Lowe, 1989, 1991, 2002; Shiloh, Mahlev, Dar, & Ben-Rafael, 1998; Stern, 1997). Self-efficacy in coping with labor pain is a woman's perception of her ability to manage the behaviors necessary for the successful mastery of childbirth (Dilks & Beal, 1997; Lowe, 1993). A woman's perception of her capabilities affects her childbirth experience, not only how well she copes physically, but also how she thinks and feels about this experience (Drummond & Rickwood, 1997). Furthermore, it plays a major role in birth choice (e.g. vaginal or

cesarean delivery) not only for the current pregnancy but also for subsequent pregnancies (Dilks & Beal, 1997).

There are several methods that nurses can use to enhance self-efficacy in pregnant women. Of these, research has shown that childbirth preparation classes have the potential not only to increase pregnant women's self-efficacy in coping with labor pain but also to reduce stress during the processes of pregnancy, childbirth, and becoming a parent (Capik, 1998; Crowe & von Baeyer, 1989; Dieterich, 1997; Kumpala, 2003; Rungsiyanond, 1997; Sankasuwan, 1999; Walker & Erdman, 1984). Notably, researchers Kumpala (2003) and Rungsiyanond (1997) have demonstrated the benefits of childbirth classes in enhancing self-efficacy in coping with labor pain in Thai primiparas. Primiparous women, as opposed to multiparous women, have no previous experience with childbirth against which to evaluate their own capabilities so this group should benefit most from educational interventions designed to enhance self-efficacy.

Although the evidence supporting prenatal intervention is strong, childbirth preparation classes have received little attention in Thailand. Further, prenatal care choices offered to Thai women in the government supported antenatal clinics (ANC) are limited and vary throughout the country. In fact, only a few hospitals in Thailand have childbirth preparation classes and most of these are located in Bangkok, the capital city. According to data from the National Center for Health Statistics in Thailand (Health Information Division, Bureau of Health Policy and Strategy, n.d.), approximately 86% of Thai pregnant women visit ANC in hospitals located outside of Bangkok each year.

Effectively, this means that most Thai pregnant women have little opportunity to attend childbirth preparation classes.

Additionally, most hospital policies in Thailand do not allow husbands or other family members to stay with pregnant women during labor or delivery. These policies are contrary to studies in Western cultures that indicate that laboring women experience anxiety and fear which diminishes their self-efficacy in coping with labor pain when they are separated from the support of their families (Beebe, Lee, Carrieri-Kohman, & Humphreys, 2007; Lowe, 2002). This lack of family support for laboring Thai women may lead them to have difficulty in coping with labor pain.

Given the paucity of prenatal education in Thailand, care options that vary in different parts of the country and unsupportive hospital policies, it is not surprising that few studies have been conducted regarding self-efficacy in coping with labor pain or with the effects of prenatal education to increase self-efficacy in coping with labor pain in Thai women.

In seeking ways to improve nursing care and consequent outcomes for childbearing women in Thailand, the researcher felt that it was important to develop a childbirth preparation program that incorporated efforts to increase self-efficacy in coping with labor pain. It was thought that the program would likely increase confidence in coping with labor pain, increase childbirth satisfaction, decrease the use of epidural anesthesia, and encourage the use of various childbirth options. Women who have never experienced labor should benefit most from this educational intervention so primiparas were chosen for the study population.

Purpose

The purpose of this quasi-experimental study was to determine the effect of a childbirth preparation program on self-efficacy in coping with labor pain in Thai primiparas.

Background and Significance

Childbirth is unique among stressful life events in that once it begins it must proceed to resolution (Lowe, 1991). Giving birth requires women to perform specific tasks to achieve the desired outcome. These include relaxing, controlling breathing patterns, and providing expulsive support during a condition marked by variable but progressively intensifying uterine contractions, pelvic pain and pelvic pressure that may last for many hours. Although some women may enjoy being pregnant, they also fear labor and delivery, often resulting in a desire to postpone labor and delivery (Lederman, 1996).

Actually, labor pain, an essential component of the natural childbirth experience, is greatly feared by most expectant mothers and by some fathers (Simkin, 2000). Given the stressful nature of this event, some pregnant women seem to have little confidence in their ability to give birth without medication (Stern, 1997) and thus seek pharmacologic pain relief. Women who fear the experience of childbirth may not explore the use of coping techniques. Instead, they may approach childbirth expecting to require analgesia, anesthesia, forceps, vacuum extractors, or cesarean delivery.

Some women may find labor pain so severe that the memory of the experience gives them long term psychological problems (Crafter, 2000). The findings from a longitudinal cohort study (Waldenström, 2003) stated that at one year after birth 24% of women said labor and birth overall was the worst pain imaginable. In the end, women do not completely forget labor pain. Memories of the labor experience remain with a woman throughout her life regardless of the outcome (Niven & Murphy-Black, 2000). Moreover, at one year after births, nearly half of women reported the same pain score for childbirth as they reported at two months after birth (Waldenström, 2003).

Given these responses, it is not surprising that Thai women experience fear of childbirth, uncertainty about birth trauma, difficulty giving birth, and fear of severe pain - findings similar to those in Western cultures (Kantaruksa, 2001; Liamputtong, Yimyam, Parisunyakul, Baosoung, & Sansiriphun, 2005). There are strategies that Thai women use to address their fears. Some women deal with labor by following the traditional childbirth practice or focusing on religious practices as they were taught by their mothers or other women (Kantaruksa, 2001; Liamputtong et al., 2005). Some women take a bath with a slippery vegetable such as “*pak plang*” (Kantaruksa, 2001). Some women eat “*pak plang*” (Liamputtong et al., 2005). Women believe that this vine-like green vegetable will make the baby’s body slippery and being an “easy slipper”, symbolically, indicates having an easy birth (Liamputtong et al., 2005). Some women avoid sweet foods because they believe that eating sweet foods increases the size of the infant, and thus leads to greater difficulty in giving birth (Ketkowitz, Thawornpitak, Juntaraposri, Thavondunstid, Kompor, et al., 2005). Some women choose to have a cesarean delivery as a means to

avoid risk to the infant or to the mother (Liamputtong, 2005). The rate of cesarean delivery in Thailand has been steadily increasing (Tangchareonsathien, Chandarasathit, Sidithoon, & Sae-oung, 1997). For example, the rate of cesarean delivery in Surin hospital increased from 31.09% in 2001 to 36.74% in 2006 (the most recent year for which data are available) and is expected to maintain this high rate. More interestingly, it was found that in some months the rate of cesarean delivery was higher than 40%.

Some women decide not to use pain medication while others request it despite the dangers (Crafter, 2000). Although pharmacologic methods are generally successful in relieving labor pain, adverse outcomes associated with epidural anesthesia include increased incidence of neonatal sepsis evaluation and antibiotic treatment, an increase in 3rd- and 4th-degree perineal laceration, and hyperbilirubinemia (Lieberman & O'Donoghue, 2002). Furthermore, a medically managed approach to childbirth may not result in the highest level of maternal satisfaction as shown by a systematic review by Hodnett (2002) who found that women who used no pain-relieving medications during labor were more likely than medicated women to report satisfaction with their childbirth experiences.

The ability to use coping strategies during labor is primarily dependent on the women's self-efficacy for labor (Lowe, 2002). Self-efficacy in relationship to labor is defined as a woman's personal evaluation of her own capabilities or confidence in her ability to deal with labor and to carry out the required behaviors during labor and delivery (Dilks & Beal, 1997; Kannan, Jamison, & Datta, 2001; Lowe, 1993). Confidence in one's ability to cope with labor is critical in the perception of pain during the childbirth (Lowe,

1991; Larsen et al., 2001). Self-efficacy is also a significant factor that affects a woman's childbirth experience. Women who have higher confidence in their ability to manage the labor are more likely to have a positive childbirth experience (Crowe & von Baeyer, 1989), less pain, and use less analgesia (Lowe, 1991; 2002).

Nulliparous women as compared with multiparous women, appear to have different patterns of pain during labor (Lowe, 2002). For the primigravida, it is a time of transition that brings many changes to women and presents various challenges and pressures to them. Furthermore, childbirth is commonly a woman's first experience with significant physical pain (Lowe, 1996). During the early labor when the cervix is dilated less than 5 centimeters, nulliparous women experience greater sensory pain than multiparous women (Lowe, 2002). Primigravidas will also experience, on average, a longer labor as the cervix takes longer to dilate in the first labor than in subsequent labors (Yerby, 2000). This undoubtedly contributes to increased tiredness and exhaustion, both of which influence a woman's perception of pain (Yerby, 2000). Conversely, by previous experience in labor or other painful events in her life, the multiparous woman recognizes the onset of labor and understands her ability to cope with the pain; thus, she can prepare for the pain of labor (Yerby, 2000). Therefore, to optimize satisfaction with birth and diminish the possibility of complications, midwives and/or health care providers should find ways to facilitate pregnant women's self-efficacy in coping with labor pain - especially for the primiparas. Applying strategies to promote self-efficacy and to prepare primiparas for the management of the labor pain can result in less use of epidural anesthesia and encourage them to take a more active part in childbirth (Stern, 1997).

Although childbirth preparation programs have the potential to increase the pregnant women's self-efficacy in coping with labor pain, these have not been given much attention in Thailand. In addition, delivery characteristics in Thailand require specific attention. Most Thai pregnant women will give birth without support from their husband, partners, or other family members, if they select to give birth in a government hospital. This problem is due to small labor rooms. Thus, the husband or other family members are not permitted to stay with the laboring women in the hospital. Findings from previous studies reveal that laboring women who receive social support use less medication (Hodnett, 2002; Simkin & Bolding, 2004; Stern, 1997). Continuous support of laboring women produced fewer forceps deliveries, fewer cesarean sections (Hodnett, 2000; Simkin & Bolding, 2004) and greater satisfaction with the birth experience (Simkin & Bolding, 2004).

Although government-developed health care services are available in the rural areas in Thailand, more modern health care services are available and accessible in Bangkok and Provincial towns. People who live in urban areas have better access to health care facilities than people who live in rural areas (Wibulpolprasert, 2005). Pregnant women who visit the ANC in community hospitals do not have childbirth preparation classes. Moreover, health resources are disproportionately available across different regions of Thailand. There are, also, more laboring women than there are nurses. Consequently, laboring women generally give birth with the assistance of one nurse and one attendant.

Health care services and hospital policies are thus barriers to coping with labor and labor pain. Standard hospital practices result in a decreased level of self-efficacy among Thai women. Interestingly, economic and social issues in Thailand are not usually sources of stress during pregnancy because most Thai pregnant women are covered, at least minimally, under the universal health care plan that pays most of the expenses for prenatal services, delivery and postpartum services. Under this plan,, most Thai people can buy a gold card, or health insurance card, to show as an official identification document. For every health care visit, the cardholder is entitled to medical care and treatment with the payment of a single fee of 30 THB. This translates to less than U.S. \$1.00 at current exchange rates (effective March 10, 2008) or about one hour's pay for a Thai worker which is not a significant financial barrier. Furthermore, Thai social norms require individuals to show respect to health care providers so pregnant women readily accept information from their health care providers. Thus, health care visits provide good opportunities for nurses or other health care providers to use universal health resources to enhance self-efficacy in coping with labor pain through prenatal education.

Available evidence with Thai pregnant women indicates an urgent need for childbirth education classes (Peinjing, Veerasakul, Yarungsee, Suckhareng, & Promjan, 2001). Pregnant women who attended childbirth preparation class reported that they experienced less fear of childbearing because they gained information that they believed would help them during labor (Kantaruksa, 2001). Peinjing et al. (2001) studied perceptions of childbirth preparation programs among Thai primiparas and found that

more than 55% of the subjects had a positive attitude toward the childbirth program and nearly 97% strongly believed that women need a childbirth program.

Individual beliefs regarding abilities (which should include childbearing abilities) are developed and verified through four different sources which are mastery experience, vicarious experience, social or verbal persuasion, physiologic states, and emotional states according to Albert Bandura (1982, 1995, 1997). By incorporating these four sources of self-efficacy, this childbirth class is expected to contribute to women's self-efficacy in coping with labor pain. If the effect of childbirth classes on self-efficacy in coping with labor pain in Thai women is supported, perinatal nurses, nurse educators, or other health care providers can implement and evaluate changes in nursing care. For example, reduced use of analgesia will lead to reduced cost of medical care. In addition, the effect of childbirth preparation class may help pregnant women to increase their ability to cope with labor pain, resulting in increased childbirth satisfaction. The resulting knowledge about the effect of childbirth preparation classes will provide nurses with information about the use of nonpharmacologic interventions. This study will contribute to the understanding of self-efficacy in coping with labor pain and childbirth classes. Furthermore, the findings from this study may help international health care providers who do not have a background in the health culture of Thailand to better understand the experience of pregnant women from a different culture. Last, but not least, findings from this study will provide nurses and other health care providers with another choice in providing the proper antenatal care for pregnant women.

Statement of Problem

Childbirth is often the most painful event in a woman's life, and a woman's ability to manage pain is one of the primary areas of the labor experience that may positively or negatively influence perceptions of childbirth (Lowe, 1996; Stern, 1997). Although Thai people can easily receive care at the health care center of their choice, they are passive recipients. As women become more educated about health care, their values and expectations are changing. Thus, they should get more information and have an opportunity to make important medical decisions before giving birth. Health care providers should show respect for individual rights and allow clients to participate in their own care. Routine practice for maternal care should be change. Consequently, it is challenging for Thai nurse-midwives to develop a new program to educate pregnant women during the prenatal period. Self-efficacy theory directs the researcher to investigate the stress of childbirth and the perceptions of pregnant women in coping with labor pain. Nurses play a critical role in helping pregnant women to maximize self-efficacy in coping with labor pain before the beginning of the labor process by initiating a childbirth curriculum that is realistic in preparing a woman for coping with labor pain. The limited childbirth classes available and the characteristics of health care delivery together with few studies of the self-efficacy in coping with labor pain challenge a researcher to develop a new childbirth program that is appropriate for Thai women. A childbirth preparation program that incorporates self-efficacy in coping with labor pain which all Thai pregnant women can access would support positive birth outcomes. To achieve this, pregnant women need to be informed about effective strategies to manage

labor. They need to understand the advantages and disadvantages of pharmacologic and nonpharmacologic interventions. Ultimately, knowledge of labor and delivery processes and strategies to cope effectively will heighten the confidence of Thai women during the labor and birth processes.

Research Questions

The following questions were examined in this study:

1. Does the level of self-efficacy in coping with labor pain significantly increase in Thai women after completion of a childbirth preparation class series?
2. Do Thai women who complete a childbirth preparation class report greater levels of self-efficacy in coping with labor pain in the postpartum period than women who receive standard prenatal care?
3. Does the level of self-efficacy in coping with labor pain differ significantly between Thai women who attend childbirth preparation classes and those who receive standard prenatal care?
4. Is there a difference in medication use during labor and delivery between pregnant women who participate in childbirth preparation program and pregnant women who receive standard care?
5. Is there a difference in the duration of labor between pregnant women who participate in childbirth preparation program and pregnant women who receive standard care?

6. Is there a difference in the type of delivery between pregnant women who participate in childbirth preparation program and pregnant women who receive standard care?

Conceptual Framework

Self-efficacy, introduced by Bandura, has been proposed recently to explain the labor pain coping and childbirth experiences (Lowe, 1991; Shiloh et al., 1998). Thus, the conceptual framework to explain the response to labor pain in Thai women is derived from Bandura's theory of self-efficacy (Bandura, 1982, 1995, 1997).

Social Cognitive Theory (SCT) defines human behaviors as a triadic, dynamic, and reciprocal interaction of (a) personal factors in the form of cognition, affect, and biological events, (b) behaviors, and (c) environments (Bandura, 1986). These three constructs operate as interacting determinants of each other. The personal factors and behaviors interaction involves the bi-directional influences of thoughts, emotions, biological properties and actions. In addition, a bi-directional interaction also occurs between the environments and personal characteristics in which human expectations, beliefs, and cognitive competencies are developed and modified by social influences and physical structures within the environment. These social influences can convey information and activate emotional reactions through such factors as modeling, instruction, and social persuasion. Behavior determines environmental exposure and modifies the environment. Behavior is regulated through cognitive processes and it is through an understanding of the processes involved in one's construction or reality that

enables human behavior to be understood, predicted, and changed (Pajares, 2002).

Therefore, response consequences of a behavior are used to form expectations of behavioral outcomes (Pajares, 2002).

Within this SCT perspective, humans are characterized in terms of five basic and unique capabilities which are used to determine human behaviors. These capabilities are symbolizing, vicarious capability, forethought, self-regulation, and self-reflection (Bandura, 1986). *Symbols* serve as the mechanism for thought. By symbolizing experience, people can provide their lives with meaning, form, and continuity. Symbolizing enables the storage of information for guiding future actions (Bandura, 1986; Pajares, 2002). Most behaviors are regulated by *forethought*. People anticipate the likely significance of their action, set goals for themselves, and plan courses of action (Bandura, 1986; Pajares, 2002). For *vicarious capability*, Bandura (1986) asserted that people learn from both their own experiences and by observing other behaviors. This allows the adjustment of behavior without performing the behavior (Bandura, 1986; Pajares, 2002). Within the *self-regulatory capability*, people make causal contribution to their own motivation and actions by arranging facilitative environmental conditions, recruiting cognitive guides, and creating incentives for their own efforts. *Self-reflection capability* is a prominent construct of SCT and it is the most distinctively human (Bandura, 1986; Pajares, 2002). This capability enables analysis of experience and to think about person own thought processes. Understanding is gained through reflection, evaluation and alteration of thinking to manage events.

Self-efficacy is a major construct in SCT. This construct explains and predict human behaviors. Self-efficacy is defined as the individual's judgments of his or her capabilities to organize and execute courses of action required to successfully attain designated types of performances or behaviors (Bandura, 1995, 1997). Self-efficacy involves judgments of what one can do with whatever skills one possesses (Bandura, 1997). Belief about capability regulates cognitive, motivational, affective, and selective processes (Bandura, 1995). In short, self-efficacy is an individual's perception of his/her personal capabilities to perform the required behaviors.

Self-efficacy influences the choice of activity, amount of effort expended, and persistence in the face of obstacles (Bandura, 1977, 1982). Self-efficacy affects thinking, self-motivation, feeling and behaviors. Moreover, it affects each phase of whether people consider changing their health habits, whether they can enlist the motivation and perseverance need to succeed should they choose to do so, their success in restoring control after setbacks, how well they maintain the changes they have achieved, and the experienced amount of stress and their susceptibility to depression (Bandura, 1997; van der Biji & Shortridge-Baggett, 2002). Furthermore, self-efficacy judgments influence emotional reactions to unfamiliar events. Thus, self-efficacy helps to explain why behaviors differ despite similar knowledge and skills (Nguyen, Carson, Parris, & Place, 2003). Individuals with low self-efficacy have doubts about their ability to accomplish the tasks and may quickly give up when their efforts fail to produce the desired results. Individuals with high efficacious intensify theirs efforts to master a challenge when

obstacles arise and try to change unbalanced social practices if necessary (Bandura, 1995, 1997; Maddux, 1995).

Self-efficacy varies in three dimensions: magnitude, strength, and generality (Bandura, 1977; Maddux, 1995). *Magnitude* refers to the number of steps of increasing difficulty or threat a person believes that he/she capable of performing such as relaxing during a vaginal examination will be easier than relaxing during a contraction. While *strength* is the resoluteness of a person's convictions that he or she can perform a behavior in question or how certain a person is of being able to perform a specific task; for instance, I am very certain that I will be able to relax while in labor. The last dimension is *generality* in which the successful or failed experiences influence other similar behaviors and contexts across time in general; for example, I have successfully coped with other painful experience therefore I can successfully cope with labor (Lowe, 1993; Maddux, 1995; van der Bijl & Shortridge-Baggett, 2002).

Self-efficacy is composed of two parts: self-efficacy expectancy and outcome expectancy. *Self-efficacy expectancy* is defined as a belief in the ability to organize and execute types and performances. *Outcome expectancy* is defined as a judgment that certain behavior will produce a particular outcome (Bandura, 1997). Self-efficacy in coping with labor pain is the woman's personal evaluation of her abilities to cope with labor and perform required behaviors during childbirth. Therefore, the belief in relaxing the body will reduce pain during labor is an example of outcome expectancy and the example of self-efficacy expectancy is the pregnant woman's assessment that she will be able to relax during labor (Lowe, 1991).

Belief in outcome of behavior does not lead a woman to perform a behavior unless she also believes that she successfully carry out the required activities (Lowe, 1991). Individuals' belief of their abilities are developed and verified through four sources: (a) mastery experiences, (b) vicarious experience, (c) social persuasion or verbal persuasion, and (d) physiologic and emotional states. *Mastery experiences* are the most powerful sources of self-efficacy with the success task or successful experience strengthens self-efficacy and failure experiences decrease self-efficacy (Bandura, 1995; Maddux, 1995). Observational learning, modeling, and imitation are sources of *vicarious experiences* in which they influence self-efficacy when people observe others similar to themselves perform tasks (Bandura, 1995; Maddux, 1995). Next is the less potent source but most often used because it is easy to use which is *social persuasion or verbal persuasion*. It is persuading others to believe that they are capable of performing a task (Maddux, 1995; Dieterich, 1997; van der Biji & Shortridge-Baggett, 2002). Lastly, *physiological and emotional states* influence self-efficacy when people associate aversive physiological arousal with poor behavioral performance, perceived incompetence, and perceived failure (Maddux, 1995).

Characteristics of person interact with the four sources of information to influence self-efficacy and outcome expectations. In addition, self-efficacy and outcome expectations are strengthened by these experiences and thereby influence coping behaviors and by this mean coping behaviors influence outcome as shown in Figure 1.

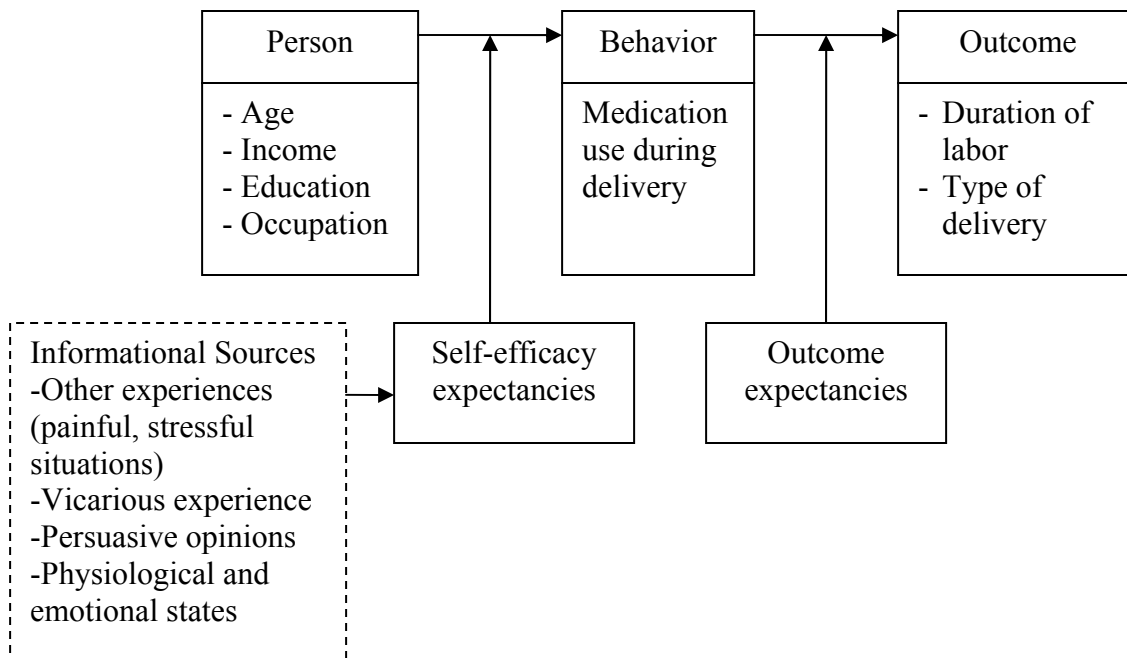


Figure 1. Conceptual Framework (Adapted from Bandura, 1997)

In summary, self-efficacy has been used with a variety of modifiers. This body of knowledge gives an application in explaining, understanding, and predicting human behaviors. Particularly, self-efficacy provides a useful way to guide nursing research and to develop interventions aiming to increase people's level of self-efficacy. Self-efficacy by Bandura provides a theoretical framework for a researcher to develop a childbirth program that will help pregnant women to enhance their confidence in the ability to cope with a stressful situation.

Definitions

The following definitions clarify the major concepts of the study:

Childbirth preparation class is defined as a structured prenatal education services conducted by nurses for pregnant women to prepare for childbirth. This program is based on childbirth preparation technique of Dick-Read and Lamaze and will begin with Thai primiparas at 33-34 weeks gestational age.

Duration of labor is defined as the length of the labor in the minutes from the onset of contractions till the delivery of placenta.

Gestation is defined as weeks since conception, typically 40 weeks in duration.

Medication used during labor is defined as the use any kind of analgesia or anesthesia during labor and delivery.

Personal factors are individual characteristics that are measured by response to the Demographic Form, which includes questions about age, education, family income, and occupation.

- Age is the full year of age of the pregnant women from the date of birth up to the date of the study.

- Education is the number of years of formal education of the pregnant women from the first class to the final class.

- Family income is the participant's self-rating of the average income per month of the pregnant woman and her husband.

- Occupation is defined as the principal activity that earns money for a primipara.

Standard antenatal nursing care is defined as the nursing care that nurses at ANC provide to pregnant women. Health policies in Thailand follow the recommendation from the World Health Organization (WHO) that pregnant women should have at least four antenatal visits. Moreover, they should have meet an obstetrician at least one time, visit ANC every month until 28 weeks of gestation, then every two weeks until from 32 weeks of gestations, and visit the ANC every week from 32 weeks of gestation until give birth.

Self-efficacy in coping with labor pain refers to the confidence of women in labor to deal with labor pain during labor and delivery processes. It is composed of two dimensions.

-*Outcome expectancy* for labor and birth is defined as the belief that a given behavior will enhance coping with labor (Lowe, 1993).

- *Self-efficacy expectancy* is defined as the individual's assessment of her ability to perform a given behavior (Lowe, 1993).

Type of delivery is defined as whether a woman has vaginal or cesarean delivery.

Assumptions

The following assumptions have been made for this study:

1. Childbirth is painful for women.
2. Each individual's pain coping behavior during labor is different.
3. All Thai primiparas participating in this study reported information honestly and accurately on the instruments.

4. The questionnaires accurately assessed the participants' self-efficacy in coping with labor pain.
5. At the time of the pretest, there was no significant difference between participants in an experimental group and in a control group with respect to the Childbirth Self-efficacy Inventory.
6. Differences exist regarding the demographic characteristics between Thai primiparas in the two study groups.

Limitations

1. This study used a nonrandom convenience sample of Thai primiparas women attending the antenatal clinic. The findings from this study might not be representative of other Thai primiparas who do not attend antenatal clinic; therefore, generalization to larger or other populations of pregnant women should be done cautiously. However, information gathered through this study is meaningful within the population studied.
2. Variables were measured with self-report instruments. The data obtained were limited to what subjects were willing and able to report. Furthermore, the responses might reflect social desirability response set bias, the tendency to give an answer that was consistent with current social values.
3. The internal validity of this study was threatened by the effects of maturation, instrumentation, and history over the course of the pretest, posttest, and follow-up. Interference by external circumstances was reduced because both the control group and

the experimental group should be equally affected. Moreover, the researcher gave questionnaires in the same format and under the same conditions for all measurements.

Summary

Childbirth is often the most painful event in a woman's life, and a woman's ability to manage pain is one of the primary areas of the labor experience which can positively or negatively influence her perception of childbirth. Self-efficacy theory is applicable to maternal labor pain and it allows the researcher to investigate stress of childbirth and perceptions of pregnant women in coping with labor pain. Nurses can play a critical role in helping pregnant women maximize self-efficacy in coping with labor pain before they engage in the labor process. Self-efficacy in coping with labor pain has not been extensively studied in Thailand in part because childbirth classes are available to a limited population of women. In addition, the health care delivery system presents significant challenges for the researcher to develop a new childbirth program for Thai pregnant women. The aim of this quasi-experimental intervention study is to determine the effect of childbirth classes on self-efficacy in coping with labor pain in a volunteer sample of Thai primiparous women. Health care providers in Thailand can use the findings from this study to develop strategies for implementation of childbirth education as a standard care for Thai pregnant women.

CHAPTER TWO

REVIEW OF THE LITERATURE

Childbirth pain is a mixture of an individual woman's pathology, physiology, psychology, and the sociology of the culture that surrounds her including the health care system and health care providers. Exploring cultural differences in the management of labor pain enriches nursing care by promoting obstetric care for women around the world. This study was conducted to determine the effect of childbirth classes on self-efficacy in coping with labor pain in a volunteer sample of Thai primiparous women.

Thai Cultural Belief on Labor and Delivery

Culture and ethnicity are often suggested as significant mediating variables on women's experience of labor pain (Lowe, 1996, 2002). Women from different cultural groups rate pain differently and demonstrate different pain behaviors (Weisenberg & Caspi, 1989). It is important for the nurse to recognize that although a woman's behavior in response to pain may vary according to her cultural background, it may not accurately reflect the intensity of the pain she is experiencing (Lowdermilk, 2006).

The culture of Thailand may be summed up in one word "religion" (Mahidol University, 2002). Although in the recent times there have been some changes in Thai culture related to western influences, the culture and social behavior largely center on religious values. In Thai society, Buddhism is a central influence on the Thai way of life,

thoughts and behaviors. Theravada Buddhism is predominant and is recognized as the state religion of Thailand with more than 90% of Thai people is identified as Buddhists (Wibulpolprasert, 2005). Many Buddhist teachings are interpreted and held among Thais as social values, codes of ethics and behaviors (Limanonda, 1995).

In order to understand the experience of labor pain of Thai women, it is important to understand traditional Thai views of men and women. In order to bring honor to the Buddhist family and subsequently bring good *karma* to themselves and their parents, most young men will study in a monastery in the *wat* for a period of time before he starts his own family. *Wat*, a symbol of Buddhist religion, is a focal point of the community. The *wat* provides the major unifying element of the community, particularly during festival and merit-making ceremonies (Mahidol University, 2002). In some areas, a man who has never been a monk is avoided by marriageable girls. A man who has not been a monk cannot be considered a mature adult.

Courting and marriage are largely managed by the seasons of harvest in Thailand. Rice in the field is ready to be harvested by late November or early December. Harvesting usually ends in January or February. The period shortly after harvesting is the popular marriage season in Thailand. Most young people select their own marriage partners. In many parts of Thailand, it is the custom for the groom to move in with the bride's family, thus providing extra labor for the family fields and also avoiding friction between mother and daughter-in-law (Mahidol University, 2002). Daily tasks are generally divided equally between husband and wife. Women normally do the household chores, but they work in the fields during planting and harvesting. Men perform heavy

tasks and fieldwork, fetch water, and occasionally clean their own clothes. The son or son-in-law is often regarded as the head of the family. After marriage, everyone eagerly awaits the birth of the first child. The cultural view is that a woman should become pregnant as soon as possible after marriage. Women in Thailand report that becoming a mother gives them happiness and pride. Their happiness comes from being fulfilled in the role of woman as it is defined in the Thai culture (Liamputtong, Yimyam, Parisunyakul, Baosoung, & Sansiriphun, 2004). The birth of her first child also enhances a Thai woman's status and position in the family. She is respected and is granted high prestige (Sriphetcharawut, 2005).

Children are highly valued in Thailand. Children are considered to be a more central focus of marriage than the sexual and emotional intimacy of the conjugal bond (Knodel, VanLandingham, Saengtienchai, & Pramualratana, 1996). Children are highly valued in rural areas, since there is strength in numbers and a vital sense of continuity is ensured. The culture of Thailand is midway between the two great cultural systems of Asia, China on the one side and India on the other. The way of life in Thailand is closely aligned with that of China but not that of the culture of India (Mahidol University, 2002). As a consequence, a male baby is the unspoken preference for expectant parents since they alone may be ordained as priests and thereby can gain merit for themselves and their parents. However, if a female child is born no life is discarded. Moreover, Thai parents believe that only children could help them get through the tough times in their lives, thus the presence of children is most valued (Liamputtong et al., 2004). The significance of children in the lives of women is demonstrated in Sriphetcharawut's study (2005). One

woman became disabled after becoming a mother. She described how she considered ending her life at one point. But, she changed her mind because of her daughter who was a central focus of her life. Her role as mother helped her continue living and realize the significance of being someone's mother.

The family is viewed as the basic socializing unit for the child to learn codes of behavior that will guide them throughout life. In early childhood, a sense of responsibility is reinforced and each child is assigned certain duties according to age and abilities. A prime responsibility placed on Thai children is the cultural expectation of taking care of their parents in their old age (Mahidol University, 2002). Although the son or son-in-law is regarded as the head of the family, a daughter is the traditionally-preferred child for taking care of aging parents. As a result, young girls may drop out of school to do household tasks; they remain uneducated, with poor access to knowledge, health care, and increased dependence on men for all decisions (UNFPA- Country Technical Services Team for East and South-East Asia [UNPTA-CTSTESE], 2005a). Thus, becoming a mother, in the women's eyes, also represents security in old age as they believe someone will be available to take care of them when they would no longer be able to perform duties or earn a living (Liamputtong et al., 2004).

Moreover, the predominant Buddhist teaching that has become an important characteristic of Thai society includes a hierarchical order in which people occupy differently ranked social positions (Choowattanapakorn, 1999; Limanonda, 1995). The elderly are usually awarded the highest status within the family, and are considered to be people highly experienced in life that could provide advice, consultation on family

matters, and life in general (Limanonda, 1995). This traditional belief is reflected in the significant roles that older women assume as supporters of pregnant women (Jirojwong, Dunt, & Goldworthy, 1999). As suggested by self-efficacy theory, hearing birth stories is considered to be a type of symbolic modeling vicarious experience which constitutes a source of information that women subconsciously absorb from their own mother's and female relatives' attitudes about labor and birth.

One source of self-efficacy is verbal persuasion which is considered to be an important source of self-efficacy information if the persuader is credible (Bandura, 1986, 1997). This sense of obligation is very strong in Thai society, particularly regarding children's relationships with their mothers. Children are taught that a mother is everything in their life (Choowattanapakorn, 1999). Therefore, their mother is credited with performing an important role in encouraging women with the delivery of infants. In addition, the large social networks of husband, relatives, and friends have significant roles in passing on the suggestions from one generation to the next generation. They also provide all types of support including giving advice to women and this tradition reflects the nature of the social support system of Thai pregnant women (Jirojwong et al., 1999).

Traditional beliefs and cultural practices also provide significant influences related to pregnancy and the behavior of pregnant Thai women, especially in rural areas (York, Bhuttarowas, & Brown, 1999). Most Thais believe that giving birth is regarded as a critical period for women. Some pregnant women use traditional practices to cope with birth. For example, some women believe that taking a bath with herbal water which includes a thorn-sensitive tree, the bark of the red cotton tree, and the bark of the olive

tree will help them give birth more easily while others bathe with slippery vegetable water (Kantaruksa, 2001). Practices found for pregnant women in the Northeast of Thailand include the avoidance of spicy hot foods, fatty foods, eggs, and, most particularly, sweet foods. Traditional beliefs hold that eating sweet foods increases the size of the infant, and leads to a difficult birth (Ketkowitz, et al, 2005). Women from this study also stated that during the postpartum period they ate food with banana flowers in order to increase breast milk.

Different cultural practices are found in Muslim communities in the Southern part of Thailand. Muslim women living in this region prefer to deliver their babies at home with the support of untrained female assistants. Women make this choice, primarily, because of the ease of conducting traditional rituals, such as that associated with the naming ceremony for the baby; such rituals are not permitted in the hospital. Another reason women select home birth is to be able to communicate in their own language with health staff; staffs rarely speak the local language common to the Muslim women (UNPTA-CTSTESE, 2005b).

Thai people have long been famous for tolerance. Outward expressions of anger are regarded as dangerous to social harmony and as obvious signs of ignorance, crudity, and immaturity (Mahidol University, 2002). Thus, the ability to keep silent is perceived to indicate the maturity of the Thai woman (Chunuan, Vanaleesin, Morkruengsai, & Thitimapong, 2007; York, et al., 1999). Chunuan, Kala, and Kochapakdee (2004) conducted a focus group and found that Thai pregnant women believe that labor and delivery is a private time for women, and giving birth is the women's business. Some

stated that they became embarrassed when someone saw them in pain. Consequently, Thai laboring women communicate labor pain via nonverbal channels and in a quiet manner which ranges from facial expressions (e.g., movement of lips, eyes or body) to changes in respiratory behaviors (Pathanapong, 1990).

Giving birth is a critical period for Thai women. Kantaruksa (2001) conducted interviews with 30 pregnant women who attend antenatal clinic in Maharaj Nakorn Chiang Mai Hospital, Chiang Mai while Liamputtong et al. (2005) conducted in-depth interviews with 30 Thai women living in Chiang Mai, Thailand. Kantaruksa (2001) found that pregnant Thai women experience fear associated with childbirth. Most feared being damaged during delivery, having difficulty giving birth, feeling severe pain, being torn or cut, or the baby being unhealthy (Kantaruksa, 2001). Surprisingly, few methods of coping with fears were identified by the participants. Some were attending childbirth preparation classes, while some were practicing traditional beliefs or fostering religious faith (Kantaruksa, 2001, Liamputtong et al., 2005). Pregnant women who attended childbirth preparation class reported that they experienced less fear because they gained valuable information that might help them during labor (Kantaruksa, 2001). Some pregnant women practiced traditional beliefs of specific baths to ease the birth (Kantaruksa, 2001; Liamputtong et al., 2005).

Some of the Buddhist teaching that lie behind cultural expression, are for example, a concept of “*mai pen rai*” or never mind, when something unfortunate happens, a concept of “*kreng chai*”, an extreme reluctance to impose on any one or disturb his personal equilibrium by direct criticism, challenge, or confrontation so as to

maintain social harmony (Limanonda, 1995). Moreover, they are taught patterns of respect and to behave and to speak appropriately with parents, elder relatives, teachers, monks, government officers, and others. As a consequence, some women will not ask for help from nurse-midwives, easily accept hospital birthing procedures, and typically do not seek additional information concerning pregnancy and delivery because they have a thought of “*kreng chai*” and “*mai pen rai*”. Therefore, in Thai culture, childbirth brings a mixture of hope and anxiety with cultural folklore about this special experience.

Labor and Delivery in Thailand Hospitals

The quality of the environment can significantly influence a woman’s ability to cope with the pain of labor. Lowe (1996, 2002) suggested that environments that may influence pain perception during labor included (a) characteristics of persons such as communication, their philosophy of care, practice policies, and quality of support; and (b) the degree of strangeness of the environment such as furniture, equipment, noise, temperature, lighting, and space. In addition, environment can be viewed in terms of pain management (Lowe, 2002). Women prefer to be cared for by familiar caregivers in a comfortable, homelike setting (Hodnett, 2002); thus, stimuli including light, noise, and temperature should be adjusted according to the women’s preferences. Lastly, the support provided by midwives, partners, and family members are important influences on childbirth experiences (Lavender, Walkinshaw, & Walton, 1999; Sauls, 2002).

Health resources in Thailand are distributed between public and private sectors. The Ministry of Public Health (MoPH) is the principal agency responsible for the public

health nationwide (Wibulpolprasert, 2005). The majority of health facilities in Thailand are available at provincial level (equivalent to cities in the USA), district level (division within province), sub-district level, and village level. All across the Thai nation, access to reproductive health care services is widely available (UNPTA-CTSTESE, 2005b). Sub-district health facilities are easily accessible at the local level but have limited medical health service. It is mandated that each sub-district be staffed with at least one nurse-midwife to provide maternal and infant care due to the limited health services. However, due to the shortage of nurses and the lack of access to health care in rural areas, traditional birth attendants continue to perform much of the maternal and infant care for rural women. Traditional birth attendants do not have any formal health education. They learn their trade from other women who have filled similar roles in village life. Recognizing this situation, MoPH now offers a program to train these birth attendants in aseptic technique, basic medical knowledge, and they may follow the hospital practices while they help women giving birth (York et al., 1999).

Maternal and child health policies in Thailand follow the recommendation from WHO that pregnant women should have at least four antenatal visits. Moreover, at least one time during pregnancy, their prenatal care visit should be conducted by an obstetrician. Pregnancy care of Thai women includes monthly visit at the ANC until 28 weeks of gestation, then every two weeks until 32 weeks of gestations, and finally visit the ANC every week from 32 weeks of gestation until they give birth. The number of antenatal visits varies depending on the women and their health care providers.

The overall number of health resources—doctors, nurses, dentists, pharmacists—in Thailand has increased; however, there are disparities between regions in terms of human resources, number of beds, and health facilities, particularly between Bangkok and the Northeast (Wibulpolprasert, 2005). The government-developed health care services are available in rural areas; however, more modern health care services are available and accessible in Bangkok and other provincial towns. There are unequal opportunities in accessing health care services between people who live in urban areas and rural areas in which urban residents have a better access to health facilities with doctors than do rural residents (Wibulpolprasert, 2005). Few hospitals have childbirth preparation classes; most of the hospitals that do provide childbirth classes are located in Bangkok. Thus, pregnant women who receive care at an ANC in community hospitals rarely have childbirth preparation. However, all pregnant women receive antenatal care which includes physical care and some information from nurses related to self care during pregnancy. Pregnant women will meet an obstetrician at least once. An obstetrician's care is used more than one time if a woman has any complications or any signs and symptoms showing that they are a high risk pregnancy.

Bandura (1986) stated that the most influential source of self-efficacy is performance experience. The past experiences of pregnant women at the ANC (such as busy clinics, the short time spent by the health care personal, and barriers in personal communication between pregnant women and health care providers) influence both subsequent visits and information passed to other women. Thai women believe that it is not necessary to visit the ANC quite as often as suggested. Phensuwan (1997) found that

more than 20% of Thai pregnant women never visited the ANC or they came to the clinics only to give birth. Pregnant women with fewer ANC visits or those who receive no prenatal care receive limited health information and are at higher risk for pregnancy complications.

Furthermore, information provided to pregnant women is limited to providing pregnancy-focused information alone. Information regarding various methods to relieve pain is not provided. Nurse-midwives sometimes tell women to breathe deeply when having birth, and sometimes will give a laboring woman a massage. Thus, work is still needed to develop a new education program throughout the ANC system of Thailand and to promote antenatal visits in Thai pregnant women.

Women who live in rural areas prefer to deliver at home more than women in urban areas. They commonly receive psychological support from family members (Chunuan et al., 2004). The birth partner or support person can also be effective in using verbal persuasion to support the self-efficacy in laboring women. In addition, pregnant women who have been present at the birth of a friend or family member will gain a live modeling vicarious experience, one source of self-efficacy. Furthermore, nurse-midwives or traditional birth attendants in Thailand can not administer medications. Thus, knowledge of labor and delivery and an array of coping strategies are vital because they can help increase self-efficacy in pregnant women's coping with labor pain.

In comparison, women who choose to deliver in a hospital will receive services that are different from those available when giving birth at home. In community hospitals, all laboring women share one large open room with partitions between beds for

privacy. Because of limited work space and infection risk, most hospitals do not allow family support members to stay with the laboring women. Laboring women have to deal with their labor pain, fear, and anxiety alone. As a result, they feel nervous, fear birth, and cope poorly with labor.

Evidence indicates that social support helps women cope with labor pain and reduces psychological stresses associated with birth such as fear, stress, and anxiety. Women who received social support use less medication (Hodnett, 2002; Simkin & Bolding, 2004; Stern, 1997). In addition, laboring women who receive continuous support experience labors which result in less frequent use of forceps during delivery, and a lower incidence of cesarean delivery (Hodnett, 2002; Simkin & Bolding, 2004). Women who are supported during labor are also less likely to report dissatisfaction or to rate their birth experiences negatively (Simkin & Bolding, 2004). Consequently, some hospitals in Thailand have instituted policy changes. For example, some district hospitals allow a woman's relative to be with her during the first stage of labor, but not in the second stage. Some private hospitals provide laboring women with private labor rooms and allow a woman's relative to be with her throughout the labor processes. Women delivering in a private hospital will have the opportunity to choose from options such as the place of birth, type of delivery, method of pain relief, and position of delivery. Some private hospitals allow women to select the date and time of their delivery by choosing a cesarean delivery.

Attempts to change Thai policies often meet with resistance. Additional money may be required to renovate the labor and delivery rooms, and to purchase obstetrical

equipment. Moreover, new policies require additional nurses to provide care in separate rooms. Although all Thai nurses are trained as midwives and can provide maternity services, the imbalance between the number of laboring women and health care providers is still a major problem.

During the admitting process, labor nurses are the primary providers who obtain all important information. Fetal weight is estimated by nurses on admission and any suspected variation from normal is recorded. Subsequent vaginal examinations are done depending on the progress of the labor and judgment of the nurse at approximately two-hour intervals. During this period, uterine contraction and fetal heart sounds are monitored manually by the nurse every 30-60 minutes and depending on the progress of the labor and fetal condition. Progress of labor is usually monitored graphically by plotting cervical dilatation over time using Friedman's curve. Electronic fetal monitoring is not routinely used during labor due to the limited availability of equipment.

Amniotomy and Oxytocin are usual induction interventions. The laboring women are transferred to the delivery room at the start of the second stage of labor. Once in the delivery room, laboring women lie supine until they give birth. Nurses work under the routine orders of an obstetrician and assist all normal births. The obstetrician attends the delivery only in the case of a high-risk pregnancy.

Labor pain management includes pharmacologic and nonpharmacologic methods. Marmor and Krol (2002) indicated that US women have fewer options for labor pain management than those from other countries. However, in Thailand pharmacologic methods are rarely used and then only under the direction of an obstetrician. In general,

intramuscular injection of Pethidine or opioid drugs is the standard practice. Pethidine is provided to the woman who requests it; it is also used when the labor nurse assesses the inability to control labor pain in the patient. The labor nurse is free to request Pethidine for her client when appropriate, unfortunately, obstetricians may be unavailable to administer this analgesia, especially during the night shift. As a consequence, analgesics are rarely given to the laboring women and very often women receive only one dose of Pethidine (50 mg intramuscular injection) throughout her birthing process. Available regional anesthesia includes epidural and spinal block; however, this anesthesia is only offered to the woman delivering via cesarean delivery. An epidural block is not offered to all women in labor since this procedure requires both advanced anesthesia skills and close monitoring. Only a few teaching and private hospitals who employ an obstetrical anesthesiologist offer an epidural block to women who request it.

Nonpharmacologic methods for labor and delivery include breathing techniques, muscle relaxation, superficial heat and cold compress, hydrotherapy, touch, distraction, cutaneous stimulation, transcutaneous electric nerve stimulation, hypnosis, acupuncture, acupressure, and music. However, no one technique totally relieves labor pain. Therefore, childbirth education classes attempt to combine various strategies for relieving pain, giving the woman options to use in managing her birth experience. Nonpharmacologic methods of relieving pain are not taught in the ANC. Very often laboring women are left to overcome labor pain on their own. The labor nurses advise women to breathe deeply when giving birth, and give a laboring woman with a massage in some cases.

In summary, women who give birth at different health care centers experience difference admission procedures. Women who give birth at the Government hospital will have less choice in pain relief methods and less social support than those who give birth at the private hospital. This may result in stress and undermine self-efficacy thereby impairing performance. If they cannot cope with or control their reactions, it can cause a series of changes that affect both the mother and her fetus. Thus, the management of stress and pain during labor and delivery continues to be a major concern for women, their families, and health care providers (Chunuan et al., 2004).

Self-Efficacy in Coping with Labor Pain

Self-efficacy was first introduced by Bandura in the late 1970s as one construct in Social Cognitive Theory. Since this concept emerged, most scholars have discussed self-efficacy as an individual characteristic and utilized this concept in various types of interventions. The most current use of this concept, as used in this study, is for an intervention in childbirth self-efficacy to help women manage labor pain.

Definition and Characteristics of Self-Efficacy in Coping with Labor Pain

Bandura (1997) defined self-efficacy as “a judgment of one’s ability to organize and execute given types of performances” (p.21). Self-efficacy is not concerned with the skills one has but with judgments of what one can do with whatever skills one possesses (Bandura, 1995, 1997). In short, self-efficacy is an individual’s perception of his/her personal capabilities to perform the required behaviors.

Self-efficacy with regard to labor is a woman's personal evaluation of her own capabilities to deal with labor and carry out the required behaviors during childbirth; successful mastery of childbirth is related to a woman's perception of her ability to control her behavior during childbirth (Dilks & Beal, 1997; Lowe, 1993). Two components of self-efficacy are outcome expectancy and self-efficacy expectancy (Bandura, 1997). Self-efficacy expectancy is a belief in one's ability to organize and execute given types of performances. Unlike self-efficacy expectancy, outcome expectancy is defined as a judgment that certain behavior will produce a particular outcome (Bandura, 1997).

Belief in the outcome of behaviors does not lead a woman to perform a behavior unless she also believes that she can successfully carry out the required activities (Lowe, 1991). A pregnant woman's perceived confidence in performing the activities for coping with labor pain has been hypothesized to decrease stress and enhance the ability to cope with labor pain. The belief that relaxing the body will reduce pain during labor is an example of an outcome expectancy in labor. Self-efficacy expectancy is the pregnant woman's assessment that she will be able to relax during labor (Lowe, 1991). Thus, the characteristics of self-efficacy in coping with labor pain are (a) the general belief that they will be able to cope with labor pain, (b) a firm confidence that they can master a particular task, (c) the belief that they can maintain the change they have achieved or sustain their effort, and (d) the belief that certain behaviors could help women to cope with labor.

Self-efficacy expectancies vary in magnitude, strength, and generality (Bandura, 1977; Maddux, 1995). The ordering of tasks by level of difficulty is *magnitude*. This implies that it is easier for laboring women to relax and breathe through contractions during the latent phase than it is to relax and breathe through contractions during the active phase of labor (Lowe, 1991). The laboring woman believes that she will be able to relax through contractions during labor is an example of *strength* or the woman's feelings of certainty in her ability to perform a given task (Lowe, 1991). The extent to which self-efficacy expectancy for specific situations is applicable to other related situations is the *generality* of expectancies (Lowe, 1991).

Factors Influencing Self-Efficacy in Coping with Labor Pain

Self-efficacy and outcome expectations are strengthened by characteristics of the individual and thereby influence coping behaviors (Figure 1). Characteristics of the individual in this study include age, education, income, and occupation.

Person

A woman enters pregnancy as an individual with a history, a personality, and a psychological profile. Personal characteristics shape how a pregnant woman assesses the stressfulness of an upcoming birth (e.g., how threatening it is), how well she expects to be able to cope with labor and delivery, and how she judges her ability to cope with this event. In addition these cognitive judgments may affect the coping strategies that pregnant women employ during their labor and delivery.

The findings from previous studies revealed that personality dispositions or traits can influence coping strategies such as age, economic (Huizink, Robles de Medina, Mulder, Visser, & Buitelaar, 2002; Weisenberg & Caspi, 1989) and socioeconomic status (Melzack, 1993). Stern (1997) found a significant relationship between maternal confidence and income at $p = .036$. Also, Weisenberg and Caspi (1989) found that women from the low education group rated pain levels significantly higher than women from the high education group at $p < .01$.

Only two studies were found in Thai literature exploring personal variables and self-efficacy and labor coping behaviors. Sindamrong (2004) examined the marital relationship, self-efficacy in labor pain coping, and pain coping behavior during labor of 89 first-time mothers. In this study, age, education level, marital relationship, and self-efficacy in labor pain coping explained 14.9% of the variance in pain coping behavior. However, only self-efficacy in labor pain coping was statistically significant for predicting pain coping behavior during labor. Pathanapong (1990) determined the characteristics of childbirth pain communicative behaviors, mode of pain communication, and the relationship between age, education, occupation, and pain communicative behavior in 32 laboring Thai women at Pramongkutklao Hospital. No significant relationships were found between age, parity, education, occupation, and labor pain responses in Thai women. However, participants from this descriptive study who were younger or had fewer years of education asked for more information relating to the childbirth process.

Because the relationship between personal characteristics and self-efficacy and labor coping behavior has not been clearly demonstrated, age, education, income, and occupation were included in the presented study. To control for the effect of physiological and psychological variables on labor and delivery, only primiparas were recruited.

Coping Behaviors

Lazarus and Folkman (1984) defined coping as a person's "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the person's resources" (p.141). Coping is a highly contextual process that must change over time and in accordance with the situation in which it occurs to be effective (Lazarus, 1993). In addition, coping is a context-specific process which means that the choice of coping strategy usually varies with the adaptation, significance, and requirements of each threat and its context, which will change over time (Lazarus, 1993). Delivery is a process itself, which changes situational demands in the course of gestation, thus coping behaviors will change throughout the delivery process.

Escott, Spiby, Slade, and Fraser (2004) investigated whether nulliparous women, during pregnancy, can identify their own pre-existing coping strategies for managing pain and anxiety and whether the range of coping strategies used in labor by women who do not attend antenatal classes can be described. The sample included 23 nulliparous women who attended antenatal classes and 20 did not. Participants were part of a semi-structured interview during their third trimester of pregnancy. The findings from this study indicated that as women approach their first experience of labor they can identify coping strategies

that they have employed to manage pain and anxiety. In addition, women who have not attended antenatal classes approached their first experiences of labor by using a wide range of strategies from cognitive and behavioral that they have employed to manage pain and anxiety in their past experience.

While nurses in Thailand have utilized the knowledge from western culture in providing care and guiding nursing studies, few studies have explored the pain coping behaviors in Thai women. Some evidence indicates that self-efficacy is related to the labor pain level (Sosome, 1996). Also, Thai pregnant women who attend childbirth classes show better labor pain coping behavior than those who did not attend childbirth classes (Limtavong, 1987; Nonthasawatsri, Karuhadej, Pratummanon, & Seangsanoa, 2001; Peinjing et al., 2001; Sankasuwan, 1999; Yodsatien, Kunsombat, Indrapichet, & Prakitworachai, 1999).

Limtavong (1987) conducted a quasi-experimental study investigating the effect of Lamaze method for childbirth on pain coping during labor in 40 primiparas who attended a prenatal clinic. She observed pain coping during labor and found that there was a statistically significant difference in pain coping behaviors between the experimental group and control group at $p < .001$. However, she gave the participants only the information related to the Lamaze method which included breathing techniques, distraction and focusing outside the body. As suggested by the U.S. Department of Health and Human Services (USDHHS) at a minimum, the childbirth classes should include information regarding the physiology of labor and birth, exercises and self-help

techniques for labor, the role of support persons, family roles and adjustments, and preferences for care during labor and birth (USDHHS, 2000).

Pathanapong (1990) observed pain coping behavior during labor and delivery in a sample of 32 primiparous women. She found that Thai laboring women communicated pain via nonverbal channels and in a quiet manner. Behaviors included tactile, facial, lips, body movement, eyes, and respiratory behaviors. The range of verbal behaviors included report of sensation, self evaluation of tolerance of pain, asking for information, requesting help and comfort, and asking for permission. Limitations in this study were the small sample size and the descriptive nature of the study.

Sosome (1996) examined the relationship between perceived pain coping self-efficacy and labor pain level in 150 term-pregnant women. Results of this study indicated a negative correlation between labor pain and perceived pain coping self-efficacy ($r = -.30, p < .001$). Multiple regression analysis revealed that only 8.2% of variance of labor pain was account for by perceived pain coping self-efficacy. This meant that laboring women who believed in their ability to cope with labor pain could better cope with labor pain than those who had low efficacious beliefs in their coping ability.

Yodsatien et al. (1999) recruited 60 primiparas without complications who attended the ANC at Siriraj hospital, Bangkok, Thailand. Thirty participants attended five childbirth preparation classes and thirty were received the standard care from health care providers. Researchers observed and rated pain coping behaviors of all participants during birth. The maximum score for pain coping behaviors was 10 score with a higher score indicating appropriate pain coping behaviors. The findings revealed that pain

coping behaviors in the experimental group ($M = 9.38$, $SD = 1.00$) was statistically significant different from those in control group ($M = 5.08$, $SD = 1.67$), $t(59) = 12.05$, $p < .001$.

Sankasuwan (1999) conducted a quasi-experimental study to determine the effect of childbirth preparation class on labor pain coping behaviors, duration of the first stage of labor, and perception of childbirth experience in primiparas. Participants were primiparas who attended ANC in Pramongkutklao hospital, Bangkok, Thailand. Twenty-five primiparas participated in the childbirth preparation program while 25 primiparas did not. Self-efficacy was promoted through the information provided by the researcher. Practices to support coping with labor pain included exercise, positioning, breathing exercises, and relaxation. Pregnant women who participated in the childbirth preparation program displayed significantly different labor pain coping behaviors and perceptions of childbirth experience from the pregnant women in the control group who received normal care at $p < .05$. In addition, the childbirth class affected the perceived active childbirth self-efficacy in pregnant women. However, only post-test measurement of this variable was conducted. The results indicated that the childbirth preparation program significantly assisted primiparas in coping with stress during labor and birth.

Nonthasawatsri et al. (2001) investigated the effects of childbirth preparation and progressive muscle relaxation training on stress and pain coping behavior in 54 Thai primiparas who attended a prenatal clinic and were later admitted to the labor and delivery unit. Twenty-seven primiparas in the experimental group attended three childbirth classes for training in progressive muscle relaxation. From the observation of

pain coping during labor, the researchers found that pain coping behavior in the experimental group was higher than that in the control group ($p < .001$). A limitation of this study was that researchers focused only on one non-pharmacological pain relief method.

Peinjing et al. (2001) investigated the effect of the preparation for a childbirth program on the mother's knowledge of labor, pain coping behavior, and duration of the labor in 30 primigravidas who attended the ANC. Non-pharmacologic pain relief methods taught in the classes were breathing exercise, effleurage, focus of attention, and physical exercise. Results showed a strong mean score of pain-coping behavior. However, no control group was used in this study.

Sindamrong (2004) explored the marital relationship, self-efficacy in labor pain coping, and pain coping behavior during labor of 89 first-time mothers. Participants were asked to rate the self-efficacy in labor pain as a percentage. Participants self rated with a mean score of self-efficacy in labor pain coping of 58.3%. Pain coping behaviors used by these pregnant women were breathing expression, verbal expression, focal expression, movement, and facial expression. Moreover, only self-efficacy in labor pain coping was statistically significant in predicting pain coping behavior during labor of first-time mothers.

A research base to define critical behaviors identifying self-efficacy in Thai women is lacking. Woman's experience of pain during labor may be observed by nurses and others through facial expressions, movement, or verbal expressions. Thus, until an evidence-based set of coping behaviors indicating self-efficacy is identified for this

population, the use or requested use of medication in labor serves as the indicator of coping behavior.

Outcome

Both short and long-term outcomes are mediated by self-efficacy, coping strategies, and childbirth classes. These findings are congruent with reports of previous studies in which confidence in one's ability to cope with labor was found to be critical in the perception of pain during the childbirth. Using the stepwise regression analysis, Lowe (1989) found that of the nine variables, confidence in ability to handle labor was the most significant predictor of all components of pain during active labor.

Similarly, Larsen et al. (2001) examined the relationship between self-efficacy expectancies and level of labor pain in 37 nulliparous women who participated in Lamaze classes. Self-efficacy expectancies significantly decreased as labor progressed from the early (73.6) to the active phase (63.3) and from the active to the transitional phase (45.8). In addition, self-efficacy expectancies for the early (when the cervix is dilated less than 3 cm.) and active phases of the first stage of labor (when the cervix is dilated between 3 and 8 cm.) predicted approximately 20% of the variance in pain level. Importance and outcome expectancy did not account for a significant proportion of the remaining variance in both early and active labor pain. Also, self-efficacy expectancies did not predict levels of transitional labor pain. The interesting point from this study was that it addressed the level of self-efficacy expectancy for each phase of the first stage of labor. However, the questionnaires used in this study could be a limitation. Participants were asked to rate their self-efficacy expectancy and outcome expectancy by visual analog

scale (VAS) regarding their certainty in using and the importance of using breathing, relaxation, and distraction techniques. There are more non-pharmacologic pain relief methods that laboring women can utilize during the labor such as movement and positioning.

Other studies investigated the effects of prepared childbirth classes on obstetrical outcomes. Hetherington (1990) investigated the effect of prepared childbirth classes on the delivery type, medication use during labor, and lacerations in 52 couples who completed childbirth preparation classes. The total 206 participants in the control group for this study were matched on race, patient status, parity, marital status, and age. There was a significant difference on the analgesics or sedatives administered to the study population during labor with women in the experimental group more likely to receive little or no pain medication. There was a significant difference between the experimental group and control group on the administration of anesthesia as well. Regarding the type of delivery, 79 percent in experimental group had spontaneous delivery compared to only 51 percent in control group and this difference was statistical significant at $p < .001$.

Sturrock and Johnson (1990) examined the relationship between childbirth classes and the outcome of labor and delivery. Participants in the first group were 114 primiparous who attended at least two classes of a series of four prenatal classes and participants in the second group were 93 primiparous who attended one or zero classes. Analysis revealed that primiparous women in the first group tended to have shorter duration of active labor, longer second stage of labor, increased use of assistance at delivery (forceps or vacuum), increased use of medication, and higher Apgar score at 1-

minute and 5-minute than those from the second group. However, none of these differences were statistically significant. The lack of benefit of attendance at childbirth education classes that was not demonstrated in this study may be due to the grouping bias that was based on self-selection of attending childbirth education classes.

When compared with Thai pregnant women who did not attend childbirth classes, pregnant women who participated in childbirth classes demonstrated better perception of childbirth experience (Sankasuwan, 1999; Veanlor, 1997), and had higher scores on maternal-newborn attachment (Limtavong, 1987; Veanlor, 1997). However, there were inconsistent findings for the duration of labor from previous studies. Sankasuwan (1999) found no difference in duration of the first stage of labor and Veerakul, Laohagonchanat, Saewong, Monkong, Siri wattana, and Limprasirt (1991) found no significant difference in total duration of labor. Also, Dusiyamee (2000) found no difference in the second stage of labor. Conversely, there was a significant difference in the duration of the first stage of labor in the study by Promrak (2004). Also there was a significant difference in the duration of the second stage of labor in the study conducted by Nonthasawatsri et al. (2001). It is difficult to directly compare these studies since the content of the classes varied widely. For example, Sankasuwan (1999) provided two classes which mentioned labor, delivery, and coping, while Nonthasawatsri et al. (2001) trained participants only with progressive muscle relaxation. However, one consistent benefit of the childbirth education is that women and their babies received less systemic medication and deliveries were more spontaneous.

Childbirth Preparation Class

The major childbirth methods taught in the United States are the natural childbirth method by the Dick-Read method, the psychoprophylactic method by Lamaze, and the husband-coached childbirth by Bradley method (Lowdermilk, 2006). Dick-Read developed the model that describes how fear of labor causes the mother to become tense and her tension causes her to feel pain. He also claimed that birth could be painless for women and that it was women's tension that made contractions painful (Nolan, 1998). Thus, understanding and confidence will replace fear of the unknown. Information provided to women included labor and birth overview, as well as nutrition, hygiene, exercise, and infant and newborn overview (Dick-Read, 1984). Classes included practice in three techniques: physical exercise to prepare the body for labor, relaxation, and breathing patterns (Dick-Read, 1984). Conscious relaxation involves progressive relaxation of muscle groups in the entire body (Dick-Read, 1984). With practice many women can relax on command, both during and between contractions. Breathing patterns include deep abdominal respirations for most of labor, shallow breathing toward the end of first stage, and until recently, breath holding for the second stage of labor (Lowdermilk, 2006).

The Lamaze or psychoprophylaxis method grew out of Pavlov's theory on classical conditioning (Lamaze, 1972). According to Lamaze, pain is a conditioned response. Therefore women can also be conditioned not to experience pain in labor. The Lamaze method does this by conditioning women to respond to mock uterine contractions with controlled muscle relaxation and breathing patterns instead of crying

out and losing control (Lamaze, 1972). Coping strategies also include concentrating on a focal point, such as favorite picture or pattern, to keep nerve pathways occupied so that they cannot respond to painful stimuli. The woman is taught to relax uninvolved muscle groups while she contracts a specific muscle group. She applies this during labor by relaxing uninvolved muscles while her uterus contracts.

Lamaze teachers also believe that chest breathing lifts the diaphragm off the contracting uterus, thus giving it more room to expand (Lamaze, 1972). The chest-breathing patterns are varied according to the intensity of the contractions and the progress of labor. Class instructors also seek to eliminate fear by increasing the woman's understanding of her body functions and the neurophysiology of pain (Lamaze, 1972). Support in labor is provided by the woman's partner or other support person or by a specially trained labor attendant (Lowdermilk, 2006).

The Bradley method or husband-coached childbirth was devised based on the observations of animal behavior during birth. The husband or partner takes an active role in assisting the laboring woman to relax and use correct breathing techniques. It emphasizes working in harmony with the body (Lowdermilk, 2006). However, this method is not suitable with the characteristics of labor and delivery in most health service centers in Thailand. Since the husband or partner is not allowed to accompany his wife during labor.

Some women fear the unknown such as how she will perform in labor; this fear leads her to participate in educational preparation for childbirth (Lederman, 1996). How childbirth education influences a woman's response to pain is not completely understood.

However, research consistently indicates that childbirth education is one effective method that has a potential to increase the pregnant woman's self-efficacy in coping with labor pain and to reduce stress in the processes of experiencing pregnancy, giving birth, and becoming a parent (Capik, 1998; Crowe & von Baeyer, 1989; Dieterich, 1997; Walker & Erdman, 1984). Moreover, women who participated in a preparation for childbirth course led to a significant reduction of pain behavior (Weisenberg & Caspi, 1989).

Manning and Wright (1983) were the first researchers who used self-efficacy theory to assess self-efficacy expectancy, outcome expectancy, and importance of a medication free labor and delivery among 52 primiparous women enrolled in childbirth-education classes. The findings from this study revealed that self-efficacy expectancy contributed more to the prediction of persistence in pain control than did outcome expectancy or perception of importance of a medication-free labor which is consistent with self-efficacy theory. However, this study was narrowly focused on medication-free labor and delivery as the outcomes.

Another study that determined the effect of childbirth classes on confidence to cope with labor pain was conducted by Walker and Erdman in 1984. Both men and women participated in this study: 99 females and 66 males. All participated in the childbirth preparation programs. Participants rated their own knowledge, anxiety, practical skills, and confidence to cope with labor before-classes, after classes, and after delivery. The level of confidence in coping with labor increased slightly after classes and returned to the before-classes level after labor. These results indicated that women in this study had negative labor experiences. Moreover, they found that self-reported confidence

was significantly associated with knowledge of labor before classes began and significantly related to knowledge of practical skills after classes. This study is limited by the lack of a conceptual model guiding the development of the instrument and by the limited definitions of terms used in these studies. In addition, the studies only measured confidence to cope with labor or confidence in ability to control pain.

Crowe and von Baeyer (1989) conducted a study in 30 primiparous women who enrolled in prenatal courses. Regarding the data from 21 women who completed post-delivery measures, women who had greater confidence in their own ability to control pain before beginning prenatal classes did subsequently report that they had had less pain. Study limitations included the small sample size and lack of a control group which limits generalization.

The most recent study was conducted by Goodman, Mackey, and Tavakoli (2004). Their aim was to examine the association between factors associated with components of childbirth satisfaction and the total childbirth experience. Participants were 60 low-risk postpartum women, age 18-46 years. Researchers found that women who had childbirth preparation had higher global satisfaction with the childbirth experience than those who did not.

In Thailand, Rungsiyanond (1997) conducted a quasi-experimental study explored the effects of a childbirth preparation class on perceived self-efficacy and outcome expectancies in coping with labor pain among primigravidas. Participants in this study were 20 primiparas who attended the ANC at the Buddachinaraj Hospital. The five childbirth classes provided information regarding pregnancy, labor and delivery, labor

pain, non-pharmacological pain relief methods, medication during labor and deliver, and visiting a labor unit. The results revealed that after attending five childbirth preparation classes, pregnant women reported higher scores on perceived self-efficacy and outcome expectancies in coping with labor pain than before attending these classes. However, the study included only one group, with no comparison group.

Childbirth education classes have been found to effectively heighten confidence levels in active childbirth. To examine the effect of childbirth preparation on active childbirth self-efficacy, Kumpala (2003) randomly assigned 20 pregnant women who attended the antenatal clinic of Maharaj Nakorn Chiang Mai hospital to an experimental group and 20 pregnant women to a control group. Findings from this study revealed that after attending five childbirth preparation classes, pregnant women reported mean scores of active childbirth self-efficacy higher than before attending the class and this difference was statistically significant at $p < .01$. Moreover, the mean scores of the experimental group were significantly higher than those of the control group at $p < .01$. Nevertheless, the authors did not report the birth results for the study.

The findings from studies by Dilks and Beal (1997) and Lowe (1991) reveal that women developed self-efficacy for labor by evaluating multiple sources of information, including learning from other experiences such as painful or stressful situations, by vicariously experiencing childbirth through films and literature, through their cognitive and behavioral preparations for birth, and through the persuasive opinions of others such as childbirth educators, or professional providers. Having a prior positive birth experience and knowledge about childbirth had significant effects on childbirth self-

efficacy (Drummond & Rickwood, 1997). Furthermore, Maddux (1995) proposed that the more effective interventions involve arrangement of more than one source of self-efficacy information. Thus, the present program is based on four informational sources of self-efficacy.

Childbirth preparation classes contribute to four sources of self-efficacy in several ways. First, most interventions rely strongly on verbal persuasion as a means of enhancing a client's sense of self-efficacy and most of those interventions begin and end with communication, regardless of the techniques employed in between (Maddux, 1995). Thus, in this study, the researcher taught participants alternative coping strategies for labor pain to achieving the desired goal. In addition, class discussions focused on behavior changes and related reactions women could anticipate as their labor and birth progressed. The researcher encouraged the program participants to adopt new, more adaptive beliefs in coping with labor pain. Moreover, participants were encouraged to act on these new beliefs. The ultimate goal in experiencing success with coping strategies was to guide the participants to develop enduring alterations in self-efficacy expectations and use adaptive new behaviors.

Second, some interventions use vicarious and imaginary means to teach new skills and enhance self-efficacy (Maddux, 1995). The researcher encouraged the participants to practice non-medical coping with labor pains methods learning from the classes. During practice sessions they imagined that they are in labor. Practice sessions familiarized them with the techniques so that they can use them during labor.

Thirdly, people feel more self-efficacious when emotionally calm rather than when aroused and distressed. Thus, strategies for controlling and reducing emotional arousal, specifically anxiety, during attempts to implement new behaviors should increase self-efficacy and increase the likelihood of successful implementation (Maddux, 1995). When giving birth in a hospital, women will be faced with many experiences including a variety of environments, health care providers, and hospital procedures. These changes may cause a great amount of stress for women in labor. In order to reduce the emotional and physiological arousal, a visit in the labor and delivery unit was provided to pregnant women. Moreover, the classes were structured to provide positive feedback when participants perform well in demonstrations of the non-medical coping with labor pain strategies. Appropriate compliments and support provided during the childbirth preparation classes will strengthen the level of self-efficacy in coping with labor pain.

The last source of self-efficacy is mastery experience. Participants in this study are primigravidas who never have experienced labor and delivery; thus, mastery experiences are unavailable within this group of women. How mastery experience enhances the self-efficacy in coping with labor pain is not addressed in this paper.

In conclusion, childbirth preparation classes are an effective method used to enhance self-efficacy of laboring women and to improve childbirth outcomes. However, the Dick-Read and Lamaze procedures have limited effectiveness (Melzack, 1993). In addition, preparation by Lamaze procedure does not produce the large, dramatic effects promised (Melzack, 1993). In addition, women who anticipate a “natural, painless birth” but whose birth experience is one of severe pain or complications resulting in use of an

epidural or a cesarean delivery subsequently exhibit intense feelings of guilt, anger and failure (Melzack, 1993). More importantly, the nonpharmacologic pain relief methods provided in childbirth preparation were not emphasized in most birthing centers (USDHHS, 2000).

Previous studies in Thailand have varied widely with the content and structure of childbirth classes provided. The integrated pain management program developed by Promrak (2004) focused on one-to-one support. However, because of the limited number of labor nurses in most government hospital in Thailand, this program is difficult to put into service. Childbirth classes from both Rungsiyanond's study (1997) and Kumpala's study (2003) were composed of five classes; both researchers encountered difficulty for the participants in attending all five classes. Moreover, there was no comparison group from Rungsiyanond's study (1997). In contrast, Sankasuwan's study (1999) provided only two classes. She provided primiparas with only the information about labor and delivery and coping. Pregnant women need more information such as pain-relief method.

Finally, the childbirth preparation model is based on Western cultural ideas; therefore, it is necessary to develop more culturally appropriate interventions. The application of a single method may enhance pain coping behavior, but it cannot totally relieve pain. Therefore, the combination of pain management techniques should relieve pain more effectively. Integration of multiple nonpharmacologic pain management methods is important, as it is vital to seek effective nursing interventions that are also appropriate to the health service system in Thailand. In this study, the researcher hosted three classes. Pregnant women were informed clearly with information about labor pain,

the advantages and disadvantages of a variety of techniques to relieve the pain of labor, and the advantages and disadvantages of both pharmacological and non-pharmacological interventions. For participants to have enough time for learning and practice, this childbirth program was started in the third trimester of pregnancy.

Summary

In summary, Thai cultural beliefs regarding birth have been described. Information about Thailand hospital practices related to labor and delivery have also been provided to facilitate understanding the cultural context of the study. Bandura's theory further provided the framework within which to study coping in a stressful situation. Thus, central concepts in this study are the personal factors (e.g., age, education, etc.) that influence self-efficacy in coping with labor pain. The review of the literature indicated that findings from previous studies support the importance of self-efficacy in coping with labor pain. However, previous studies varied widely with the content and the structure of the childbirth classes provided. Moreover, childbirth preparation classes are based on Western cultural ideas; therefore it is necessary to develop more culturally appropriate interventions for use in Thailand. Pregnant women should be well informed about labor pain and the advantages and disadvantages of a variety of techniques to relieve the pain of labor. As women approach labor, they may benefit from childbirth preparation by incorporating information on a wide range of coping strategies. Potential benefits could include a shortened duration of labor and diminished use of medication during labor.

CHAPTER THREE

METHODOLOGY

Research Design

The design for this study was quasi-experimental with pretest-posttest repeated measures. Thus, this study included 2 groups (an experimental and a control group) of primigravida women in Thailand. The control group was exposed to all conditions of the experiment except the experimental variable, childbirth preparation classes. Differences in self-efficacy in coping with labor pain between pretest and posttest within each group as well as comparisons between experimental and control groups were examined.

To prevent contamination of the control group through informal information sharing by the experimental group, all data were collected in the control group before initiating enrollment of the experimental group. Control group participants completed pretest (O_1) data collection forms at enrollment in the study as baseline data. Then they were asked to complete posttest data (O_2) three weeks after O_1 during a scheduled antepartum clinic visit. Follow-up data (O_3) collection was completed between 28 and 48 hours post delivery.

The experimental group also completed O_1 data collection forms at enrollment. They then participated in a series of three prenatal classes providing information about birth, strategies to control pain, expected normal experiences during labor and birth as well as postpartum and newborn care. Class information was reinforced by providing each participant with a patient-oriented handbook of information created for the study.

Upon completion of the class series, the experimental group completed O₂ data collection forms. The third data collection (O₃) was completed between 28 and 48 hours post delivery for all study participants. The study design was diagrammed as follow:

(Ctr)	O ₁		O ₂	O ₃
	Pretest		Posttest	Follow-up
	At GA = 33- 34 weeks	Three weeks period	At GA = 36- 37 weeks	24-48 hours after delivery
(Exp)				
	O ₁	X	O ₂	O ₃
	Pretest		Posttest	Follow-up
	At GA = 33- 34 weeks	Three sessions over the three weeks period	At GA =36-37 weeks	24-48 hours after delivery

Figure 2. Research design

Note. Ctr = Control Group

Exp = Experimental group

X = Childbirth preparation classes

O₁ = Demographic forms and measure self-efficacy in coping with labor pain

O₂ = Measure self-efficacy in coping with labor pain

O₃ = Postnatal Data and measure self-efficacy in coping with labor pain

Pilot Study

A pilot study was approved by the Institutional Review Board (IRB) of the University of Texas at Austin. Also, approval to conduct the study was obtained from Surin hospital (Appendix C.) The pilot study was conducted with Thai primiparas aged more than 18 years. The purposes of the pilot study were to assess the validity of the childbirth preparation classes and to determine the feasibility of the data collection procedure.

Preparation of Childbirth Preparation Classes

Childbirth preparation classes were developed from the philosophical perspective of self-efficacy by Bandura (1995, 1997) and based on childbirth education classes in the United States (Dick-Read, Lamaze) but tailored to be culturally relevant to the needs of Thai women and congruent with local Thai hospital policy. By purposefully incorporating sources of self-efficacy (vicarious experiences, persuasive opinions, physiological and emotional states), the tailored nursing intervention was expected to contribute to women's self-efficacy in coping with labor pain.

Intervention materials

Childbirth preparation handbook. The childbirth preparation handbook (Appendix E) was developed by the researcher following extensive review of textbooks, documents, and previous research to obtain the knowledge about pregnancy, labor, delivery, postpartum, and newborn care. The handbook integrated the findings of the literature review and was designed to cover all aspects of pregnancy at an appropriate

reading level and in a culturally appropriate style. The pregnant women in both the experimental group and in the control group received this handbook and were instructed to review and practice at home daily.

To assess the validity of the childbirth preparation handbook, the researcher conducted an interview with Thai primiparas who attended all childbirth preparation classes. They were asked to review the content of childbirth preparation classes and handbook in order to evaluate a curriculum and handbook specifically addressing the clarity of wording and the comprehensiveness of the content. They were also encouraged to add written comments, criticisms, and suggestions for content revision if needed.

Childbirth Self-Efficacy Inventory (CBSEI). Self-efficacy in coping with labor pain was measured using the CBSEI developed by Lowe (1993) and translated into the Thai language by Rungsiyanond (1997). CBSEI was selected as a valid tool for measuring self-efficacy in coping with labor pain in Thai pregnant women because of (a) the conceptual definition under this instrument, (b) strong evidence supporting the psychometric properties, and (c) each item being generally related to labor and delivery and not specific to any culture or religion.

Sample in the Pilot Study

The mean score of labor pain coping behaviors from the study by Sankasuwan (1999) was used to determine the sample size. Using the mean score of labor pain coping behaviors among their experimental group ($M = 18.51$) and the mean score of control group ($M = 16.06$), a minimum sample size of 9 participants per group was recommended

for the current study. However, fifteen participants in each group were included to assure an adequate number to allow for attrition; thus, the total sample size in this pilot study was 30 pregnant women. Fifteen pregnant women in the experimental group received childbirth preparation classes while 15 pregnant women in the control group received standard antenatal care from nursing personnel.

Eligibility criteria included (a) primigravidas, (b) age 18 years and older, (c) 33-34 weeks gestational age, (d) attended the ANC in Surin Hospital, (e) speak and understand Thai fluently, (f) no medically diagnosed psychological problem, (g) fetus in vertex presentation, and for the experimental group (h) attend all four pilot study childbirth preparation classes.

Procedures for the Pilot Study

Thai primiparas women who met the inclusion criteria were invited to participate as they registered at the ANC for scheduled clinic appointments. They were informed of the overall purpose of the study and the time required for participation before seeking their written consent to participate. Compensation for participation was described. Once written consent was obtained, participants completed the Demographic Form and CBSEI (O₁) before they were randomly assigned to either the experimental or control group. The childbirth preparation handbook was distributed to all participants in the pilot study. The researcher encouraged participants to review this handbook as much as they could. For any participant who could not read, the researcher suggested they ask for help from their husband or other family members. Finally, the date and time for the next data collection

period was described. For the experimental group, the researcher informed participants of the time, date, and place of classes.

Participants in the experimental group attended four childbirth class sessions over a four week period. A small class size of only five participants allowed for individual attention and participation. Each class lasted for 80-90 minutes. Classes were held during the weekday mornings to accommodate the service hours of the ANC and daily life activities of participants. CBSEI data was collected again for all participants at the end of the fourth week (intervention completed: O₂), also data were collected from the control at the same period. The CBSEI was administered at 24-48 hour after delivery (O₃) in both experimental and control group. Data regarding medication use during delivery, duration of labor, type of deliver, sex of newborn and newborn birth weight were collected postnatally from the medical records of participants.

Data Analysis for the Pilot Study

Frequency distributions and univariate descriptive statistics were used to describe the characteristics of the sample and to provide an initial description of the study variables. Differences in demographic variables between Thai primiparous who attended childbirth classes and those who received standard prenatal care were analyzed with *t*-test and Chi-Square test (χ^2). Cronbach's alpha coefficients for reliability were determined for the CBSEI.

Findings of the Pilot Study

A high attrition rate was observed from the pilot study. Thirty Thai primiparas were recruited; however, 14 participants did not complete all measurements. Thus, 16 participants were included in the final analysis. In the experimental group, eight of 15 attended all four sessions period of childbirth preparation classes. Two participants attended only three classes due to premature delivery; two attended only one class, two attended only two classes, and one changed her care to a private hospital. Seven of the 15 participants from the control group did not attend the ANC during week four for data collection. The researcher could not collect the data for the O₂ and O₃ from these participants.

In demographic analysis, primiparas in the experimental group were older ($M = 22.25$, $SD = 4.49$) than those from control group ($M = 21.13$, $SD = 4.64$). More primiparas from the experimental group had completed high school. Primiparas from the experimental group also had a higher mean of income ($M = 4646.67$, $SD = 3699.87$) than those from the control group ($M = 5300.00$, $SD = 3114.48$). There were no occupation differences between the experimental and control groups. More women from the control group were single than those in the experimental group. However, there were no significant differences between groups in age, education, income, occupation, or marital status (Table 1).

Regarding birth outcomes, primiparas in the experimental group experienced a longer duration of labor ($M = 495.00$, $SD = 285.43$) than those in control group ($M = 414.00$, $SD = 148.29$). However, all primiparas in experimental group had a normal

delivery, while three control group participants experienced cesarean deliveries. It is interesting to note that most newborns from the experimental group (5 of 8) were female, while most from control group (5 of 8) were male. Means of newborn birth weight was greater in the experimental group ($M = 2983.75$, $SD = 312.77$) than the control group ($M = 2853.75$, $SD = 417.47$). However, there were no statistically significant differences between the experiment group and control group in birth outcomes (Table 2.)

Evaluation of Childbirth Preparation Classes

Feedback by the participants indicated that content from the childbirth preparation class curriculum and handbooks were sufficient; women did not think information should be added nor should any section be deleted. Informal interventions were conducted with 4 participants who missed some classes because of non-medical reasons. They stated that four classes were overwhelming and it was difficult to attend all these classes. They also stated that they could not attend the ANC at the scheduled childbirth class. Moreover, they did not know that they could reschedule for another day. They suggested that the childbirth classes should be less than 4 sessions. As a result of evaluation data and intervention, the researcher modified the childbirth preparation classes to include only three sessions.

Instrument Reliability: Childbirth Self-efficacy Inventory

Estimates of reliability are specific to the sample being tested (Burns & Grove, 2005), because an instrument that works well for one population may not work well for

another group of population (Strickland, 1995). Subsequently, it was important to test the internal consistency as the estimate of reliability before using it in this study. Participants required approximately 15 minutes to complete this questionnaire. They had no difficulty understanding the questionnaire's instruction. The Cronbach's alpha coefficient was .89 for outcome expectancy active labor (Outcome-AL), .95 for self-efficacy expectancy active labor (Efficacy-AL), .95 for outcome expectancy second stage (Outcome-SS), and .96 for self-efficacy expectancy second stage (Efficacy-SS). The reliability of the Th-CBSEI which was above .80 was considered acceptable. Consequently, Th-CBSEI is considered to be sound reliable and valid for measuring self-efficacy in coping with labor pain in Thai pregnant women.

Table 1

Demographic Variables of Participants from the Pilot Study By Group (N =16)

Demographic variables	Experimental group (n = 8)		Control group (n = 8)		
	n	%	n	%	
Age (years)					$t(15) = .492, p = .63$
<20	3	37.5	3	37.5	
20-24	2	25.0	4	50.0	
25-29	2	25.0	0	0	
>30	1	12.5	1	12.5	
<i>M</i>	22.25		21.13		
<i>SD</i>	4.49		4.64		
Educational level					$\chi^2 (2, N=16) = .40, p = .82$
Primary school	2	25.0	3	37.5	
Middle school	3	37.5	3	37.5	
High school	3	37.5	2	25.0	
Income (THB/month)					$t (15) = -.087, p = .93$
<5000	3	37.5	4	50.0	
5,000-10,000	2	25.0	2	25.0	
>10,000	0	0	1	12.5	
Refused to answer	3	37.5	1	12.5	
<i>M</i>	4646.67		5300.00		
<i>SD</i>	3699.87		3114.48		
Occupation					
Unpaid family workers	4	50.0	4	50.0	
Paid workers	4	50.0	4	50.0	
Marital status					$\chi^2(1, N=16) = .291, p = .49$
Married	5	62.5	6	75.0	
Single	3	37.5	2	25.0	

Table 2

Postnatal data of Participants from the Pilot Study by Group (N = 16)

Postnatal Data	Experimental group (n = 8)		Control group (n = 8)		
	n	%	n	%	
Duration of labor (minutes)^a					$t(15) = .581, p = .57$
<240	2	25.0	0	0	
240-480	3	37.5	3	37.5	
481-720	0	0	2	25.0	
>720	3	37.5	0	0	
<i>M</i>	495.00		414.00		
<i>SD</i>	285.43		148.29		
Type of delivery					$\chi^2(1, N = 16) = 1.64, p = .20$
Vaginal delivery	8	100.0	5	72.5	
Cesarean delivery	0	0	3	37.5	
Sex of newborn					$\chi^2(1, N=16) = .317, p = .62$
Male	3	37.5	5	50.0	
Female	5	72.5	3	25.0	
Newborn birth weight (grams)					$t(15) = .705, p = .49$
< 2,500	0	0	1	12.5	
2,500-3,000	4	50.0	3	37.5	
> 3,001	4	50.0	4	50.0	
<i>M</i>	2983.75		2853.75		
<i>SD</i>	312.77		417.47		

Note. ^a Three from the control group do not have data of the duration labor because they have a cesarean delivery.

Main Study Procedures

Sample

The accessible population of interest was pregnant women who attended an ANC in Surin hospital, Surin province, Thailand. A non-probability convenience sample was recruited for this study. Selection criteria were: (a) primigravidas age 18 years and older, (b) 33-34 weeks gestational age without complications (recommend by USDHHS that classes should begin at the third trimester of pregnancy so that information learned will be used relatively soon after presentation), (c) speak and understand Thai fluently, (d) have no medically diagnosed health problem, and (e) the fetus is vertex presentation, to control for the effect of fetal position on pain and labor. Malpresentation may prolong labor and make it more uncomfortable for the laboring women.

Sample size determination

The nQuery Adviser® Release 4.0 was used to determine the sample size. A significance level was set at the .05 level ($\alpha = .05$), and the power level was set at .80 because these levels have been suggested for use in many areas of behavioral science research. The statistical analyses that were performed to answer the research questions involve two statistical tests, *t*-test and one-way repeated measures analysis of variance (one-way repeated measures ANOVA). Data from the pilot study in the same setting were used to determine the sample size. In the pilot study mean labor pain coping behavior scores at O₁ to O₃ were 178.29, 195.43, and 192.43 respectively and the

variance of means was 55.858. Using mean self-efficacy in labor pain coping scores of the experimental group a minimum sample size of 15 participants per group was recommended. However, a 47% attrition rate was observed in the pilot study. Therefore, in this study the recruited sample size was doubled to account for attrition. The total sample size in this study was 60 pregnant women. Thirty pregnant women in an experimental group received childbirth preparation classes while 30 pregnant women in a control group received standard antenatal care from nursing personnel.

Procedures for Protection of Human Subjects

Because this study required personal interaction with subjects and the sharing of private information, issues of human subjects' right were addressed. In consideration of human subjects' rights and according to procedure at The University of Texas at Austin, IRB approval was secured prior to initiating this study. Approval to conduct the study was secured from officials of the Surin hospital.

To protect confidentiality and anonymity, participants were not asked to identify themselves by name on the questionnaires. Each respondent was given a cover letter explaining the identity of the investigator and the nature of the study, including its risks and benefits. Participants were informed that they need to sign the consent form assuring that they agree to participate in this study. Participants number (ID) and ANC number were placed on all of the information obtained at the time they completed the first questionnaire, in order to match questionnaires for data identification from the

participant's chart. Moreover, participants were informed that findings would be presented as group data with no personal respondent information reported. Information provided by participants was guaranteed to be used only for the purpose of the study and to remain confidential. Questionnaires were distributed to pregnant women who met the criteria and agreed to participate; however, they could withdraw at any time.

An office for the researcher was located at Boromrajonani College of Nursing, Surin which was near the Surin hospital. Consent forms were kept in a locked file cabinet in the office and no one but the investigator had access to that file. A list of participants' names and all data pertaining to the study were stored in the locked cabinet until data collection was completed. The list of participants' names was destroyed upon completion of the study.

Data Collection Methods

Setting

The site for this study was the ANC in Surin Hospitals, Thailand. Surin Hospital is a public hospital located in Mueang District, Surin province (equivalent to cities in the USA). Surin province is located in the South of the North Eastern Region, Thailand, around 450 kilometers (267.85 miles) from Bangkok.

The Antenatal clinic in Surin Hospital is open daily, Monday to Friday, from 8 am to noon. Prenatal care is provided by four nurse-midwives and one obstetrician. There are between 120-125 continuing cases and 15-20 new cases each day. Fundamental health

care services provided during the visits are similar to that provided in the United States, including estimation of gestational age, weight monitoring, blood pressure monitoring, testing of urine for bacteriuria and proteinuria, detection and management of severe anemia, screening for sexually-transmitted diseases, screening for maternal complications, evaluation of fetal status, and tetanus toxoid immunization. General information provided to pregnant women included nutrition, preparing for breastfeeding, and fetal movement counts. All pregnant women are examined by the obstetrician at least once during the prenatal period. Pregnant women experiencing high risk pregnancies or health complications are regularly seen by the obstetrician.

A private room at the ANC was used by the researcher for recruiting and interviewing participants. A second room was used as a teaching room. This room was air-conditioned and has a white-board and slide-projector. It also has enough space for participants to practice nonpharmacologic pain relief methods during the class.

Data Collection procedures

Approval from the IRB for the protection of Human Subjects at The University of Texas at Austin was obtained prior to the beginning of the study. Also, approval to conduct the study was obtained from Surin hospital (Appendix C.). Data were collected from the participants during week 1 to establish a baseline (O₁: Pretest), at the end of the third class which is the time that the intervention ended (O₂: Posttest), and at 24-48 hour after they gave birth (O₃: Follow-up). Thus, the researcher recorded the participants ANC number and Hospital number in order to follow the participant in the next three weeks

and to follow the participant again after they gave birth. In order to prevent contamination between the experimental and control groups, all data were collected in the control group before initiating enrollment of the experimental group.

Data Collection Procedures for the Control Group

Two weeks before the study, a flyer was placed in the clinic. This flyer provided the aim of the study and the date and time for data collection. Early in the morning, the researcher went to the ANC and checked clinical records to identify pregnant women who met the inclusion criteria. When eligible women registered, the researcher also met with the potential participants individually and invited them to participate. Volunteers were informed of the overall purpose of the study and the time required for participation before asking their consent to participate. If the volunteers did not wish to participate, they were politely thanked for their time. A total 31 primiparas were recruited for the control group and only 1 refused to participate in this study.

After volunteers agreed to participate, they were screened to confirm that they met the inclusion criteria. The study was explained both verbally by the researcher and through participants' review of a booklet containing an introduction letter explaining the purpose of the study, confidentiality, and the freedom to refuse participation at any time. Women were informed that data would be collected in week 1 to establish a baseline (O_1), three weeks later (O_2), and 24-48 hour after delivery (O_3). Compensation for participation was described. After questions were answered, informed consent was obtained. The researcher explained the study consent form (Thai language), and allowed the potential subjects enough time to read it before obtaining signatures.

Then, the researcher explained and provided the instruments which were the demographic form and CBSEI. Participants were asked to complete the instruments, place completed instruments in an envelope, seal and return it to the reception desk. The researcher was present during the administration of the instruments to answer any questions. The date and time for O₂ data collection was placed on the individual government issued antenatal health book (Appendix F.). Pregnant women in Thailand carry this individual medical record and they can use it at any hospital in Thailand. Also, the researcher provided each participant with her contact information; participants were informed that they could contact the researcher at any time. Lastly, the researcher asked for their home address and phone number. Participants were informed contact information would be used to remind them of the time for collecting O₂ and O₃ data. Also, a postcard would be mailed one week before the scheduled data collection date to remind participants from the control group of the scheduled data collection date.

After three weeks, the researcher went to the ANC again and checked the clinical records to identify whether study participants registered for the day. When participants registered at the ANC, the researcher met with the participants individually and asked them to answer the posttest questionnaire (O₂). Then, the researcher provided the instrument which was CBSEI and explained how to complete it. Participants were asked to complete the instruments, put the completed instruments in an envelope, seal, and return it to the reception desk. The researcher was present during administration of the instruments in order to answer any questions. All thirty participants who completed the pretest also completed the posttest questionnaire (O₂).

Lastly, the researcher reviewed the patient lists of the labor unit and postpartum unit daily to locate the study participants for post delivery data collection. The CBSEI was administered in the postpartum unit 24 to 48 hours after the delivery (O₃). Participants were asked to complete the instruments, put the completed instruments in an envelope, seal it, and return it to the nursing counter. Postnatal data were obtained from the clinical record by the researcher. All 30 participants from the control group completed all measurements at the three data collection points, resulting in 100% retention.

Data Collection Procedures for the Experimental Group

After the last control group participant gave birth, the researcher initiated recruitment of the experimental group. The same recruitment, informed consent, and O₁ data collection procedures used with control group were used with the experimental group. In addition, women in the experimental group were informed that they needed to attend three 90 minute childbirth class sessions over a three week period. Thirty primiparas were recruited and all agreed to participate in this study.

The researcher informed them of the time, date, and place of classes. A schedule of three classes was placed on their government issued antenatal health book. The participants in the experimental group were informed that childbirth classes were held on Monday through Friday. In case they could not attend class on their scheduled day, they could attend on a more convenient day. Also, the researcher provided participants with her contact information. They were informed that they could contact the researcher at any time. During the course of this study only two participants called to reschedule the second class and one called to reschedule the third class.

At the end of the second class, the researcher reminded participants from the experimental group that they would again complete the CBSEI after the final class. At the end of the third class, CBSEI was administered (O₂). Also, the researcher asked them to answer one open-end questionnaire to evaluate the childbirth preparation classes. All thirty participants attended all three sessions of childbirth classes, completed CBSEI and gave the researcher feedback on the childbirth preparation classes.

Lastly, for collection of data in the postpartum unit 24 to 48 hours after delivery (O₃), the same procedures used with the control group were used with the experimental group. Two participants in the experimental group were lost to the study because they did not give birth at the Surin hospital, resulting in 93.34% retention rate.

No significant barriers to recruitment or to the data collection procedures were noted. Some participants did not finish the questionnaires before time to see the nurse-midwives. In this situation, a researcher allowed participants to see a nurse-midwife first and asked them to complete questionnaires later. They could keep uncompleted questionnaires with them in case waiting time was available to complete the form.

Intervention Protocol

The intervention consisted of three prenatal classes each 1 week apart. Each class had 5 participants and included an instructional period as well as an interaction period for women to share experiences. A small class size of only five participants was used to allow for individual attention and participation. Classes were held during weekday mornings to accommodate the service hours of the ANC and daily activities of

participants. Each class lasted 80-95 minutes and this was sufficient time to practice nonpharmacologic pain relief methods, share experiences, and discuss any questions. The content of each class was built upon self-efficacy principles (Appendix D.). Content in the program included discussions related to pregnancy, labor, delivery, coping with labor pain, postpartum, and newborn care.

Childbirth preparation classes

Findings from the pilot study enriched information provided in this proposed study. The number of classes was decreased to three. Content remained unchanged from the pilot study but the sequence of presentation was altered.

The first class was held with participants at 33-34 weeks gestational age. During the first class the purpose of this program was detailed. The childbirth preparation handbook was distributed and an explanation of how to use it was provided. Participants were encouraged to express their concerns about labor and delivery in the group. The instructional content for the first class included (a) birth plan, (b) anatomy and physiology of pregnancy, (c) body mechanics, (d) quickening and fetal movement count, (e) premonitory signs of labor, (f) true and false labor pain, (g) what to bring to the hospital, and (i) overview of stages and phases of labor.

The second class focused on strategies to cope with labor pain. The content specifically included (a) nature of labor pain, (b) medications used in labor, and (c) non-medical coping with labor pain. A discussion was included to assess participants' previous pain experience such as dysmenorrhea and strategies that they have used for

coping in the past (vicarious source of self-efficacy). The researcher demonstrated exercise, position changes, breathing control and relaxation. Then participants did return-demonstration of these coping strategies. After that, role-play was performed as though they were in labor. Participants practiced staying in an upright position while focusing on breathing and muscle relaxing to gain these skills through practicing. Participants were encouraged to practice all these techniques daily so that they were prepared to use the technique during the labor and delivery (vicarious source of self-efficacy and physiological and emotional states source of self-efficacy). Then, the researcher provided a tour of the labor and delivery unit in order for the primiparous women to get familiar with the environment (physiologic and emotional states source of self-efficacy).

During the third class, content from class one and class two were reviewed. Participants were also encouraged to discuss any problems encountered. Two participants stated that they encountered a problem when they exercised at home. Then, the researcher and the pregnant women worked together to solve any problems identified. Later, participants practiced exercise, labor positions, breathing strategies and relaxation techniques. The researcher provided support and compliments when they doing these techniques correctly (social persuasion source of self-efficacy). Finally, delivery and postpartum information were the focus of this class. The information provided included (a) labor variations, (b) delivery variations, (c) postpartum, and (d) evaluation. This class ended with an evaluation and the participants were asked to complete childbirth self-efficacy inventory.

Childbirth preparation handbook

The researcher used the same childbirth preparation handbook used during the pilot study. It was noted in the pilot study that participants readily identified other study participants by the childbirth preparation handbook. Therefore, to prevent contamination of the control group through accidental information sharing with the experimental group, only pregnant women in the experimental group received the handbook. Participants in the experimental group were also asked to review the handbook at home and practice the skills daily.

Instrumentation

Three instruments were used for collecting data in this study. There were the demographic form, Postnatal data form, and Childbirth Self-Efficacy Inventory (CBSEI).

Demographic Form

Each respondent was asked to complete a demographic information sheet that included age, educational level, occupation, and family income.

Postnatal Data Form

The researcher used a medical record data collection sheet to collect data for every participant who delivered at Surin Hospital. Data included of duration of labor, delivery date and time, delivery type, episiotomy, credential of person performing delivery, medication used during labor and delivery, sex and weight of the newborn.

Childbirth Self-Efficacy Inventory (CBSEI)

Self-efficacy in coping with labor pain was measured by CBSEI. It was developed by Lowe (1993) and translated into Thai by Rungsiyanond (1997). The CBSEI is a self-report instrument that measures self-efficacy expectancies and outcome expectancies for coping with labor pain that are assessed before and after participation in childbirth preparation class. Self-efficacy expectancy was defined as “a personal conviction that one can successfully perform required behaviors in a given situation”, and outcome expectancy was defined as “the belief that a given behavior will lead to a given outcome” (Lowe, 1993, p.141). The CBSEI was used to assess these expectancies of participation in childbirth preparation class.

The CBSEI consists of four subscales: outcome expectancy active labor (Outcome-AL), self-efficacy expectancy active labor (Efficacy-AL), outcome expectancy second stage labor (Outcome-SS), and self-efficacy expectancy second stage labor (Efficacy-SS). Responses are provided on a 10-point Likert scale, from “not at all helpful” to “very helpful” for the outcome expectancy scales, and “not at all sure” to “very sure” for the self-efficacy expectancy scales. Each of two active labor subscales has 15 items thus it yields a scale score from 0 to 150. Each of the second-stage labor subscales has 16 items thus it yields a scale score from 0 to 160. A total childbirth outcome expectancy score was computed by summing the Outcome-AL and Outcome-SS scale scores. A Total Self-efficacy expectancy score was computed by summing the Efficacy-AL and Efficacy-SS scale scores. In each case, high scores indicated a higher level of self-efficacy or outcome expectancy for birth.

The reliability and validity of the CBSEI has been well supported with previous research (Lowe, 1993). The reliability and validity evidence for the CBSEI is strong. Items for the tool were generated from semi-structured interview with 23 primiparous and 25 multiparous that had experienced an uncomplicated vaginal birth. Content validity was assessed by content experts' evaluation. Six content experts including four university professors with expertise in the care of childbearing and/or self-efficacy theory and two perinatal clinical nurse specialists, one doctoral and one masters prepared nurse participated in the review. Any item which was evaluated by a judge as eliciting little or no self-efficacy for childbirth information was eliminated. Then the items were then piloted with 96 healthy women in their third trimester of pregnancy who were accessed through childbirth education classes to determine clarity, specificity of directions, initial reliability, and the need for further revision (Lowe, 1993)

Lowe (1993) also conducted a study to evaluate the psychometric properties of the revised CBSEI. Subjects in this study were 351 women who attended community-based, childbirth classes in the third trimester. The Cronbach's alpha coefficient was .86 for Outcome-AL, .93 for Efficacy-AL, .90 for Outcome-SS, and .95 for Efficacy-SS. In addition, corrected item-total correlations were greater than .30 for all items in each scale. Reliability was further assessed in a two week test-retest with 60 subjects randomly drawn from the larger sample and all test-retest correlations were significant at $p < .01$ with .56 for Outcome-AL, .76 for Efficacy-AL, .46 for Outcome-SS, and .69 for Efficacy-SS. Furthermore, construct validity was assessed by principal axis factor analysis with orthogonal and oblique rotations. Results showed that Outcome-AL,

Efficacy-AL, and Efficacy-SS could be interpreted as a single-factor score. The solution for the Outcome-SS scale extracted three factors with eigenvalues > 1.0 and each item loaded on only one factor following oblique rotation. Finally, criterion-related validity was assessed with Internal-Health Locus of Control (HLOC), Others-HLOC, and Helplessness. Correlations between CBSEI scales supported the relationship between CBSEI and the criterion variables except for Others-HLOC. Therefore, the CBSEI scales have excellent internal consistency reliability, and its validity was also adequately supported.

In addition, the CBSEI scales have been widely used in health promotion research since it was introduced to nursing research, and additional research has been done to evaluate its psychometric properties with other samples. The instrument was tested in a sample of 100 Australian women. The CBSEI again demonstrated high internal consistency (above .90) on all four subscales (Drummond & Rickwood, 1997). Also, the psychometric properties observed in a sample of 126 women in Northern Ireland yielded similar results (Sinclair & O'Boyle, 1999). Most recently, Ip, Chan, and Chien (2005) performed translation and back-translation of the CBSEI into Chinese. In a study using the translated version, these researchers found similar psychometric properties of CBSEI.

The Thai version of this instrument needed to be faithful to the original language yet, relevant to Thai culture, and natural for the Thai language. Rungsiyanond (1997) completed a rigorous translation-back-translation of the CBSEI. First, the researcher translated CBSEI from English to Thai (Th-CBSEI). After the translation process, Rungsiyanond sent Th-CBSEI to three experts for cultural appropriateness, level of

readability, and clarity of language used in Th-CBSEI. She then revised items and instructions on the basis of reviewers' comments. Then, another translator translated the Thai version back into English. The translators worked independently. She then compared the original scales and the back-translated scales to determine inconsistencies and revised the problematic items of the Thai version and the back-translation was repeated until no discrepancies appeared.

Th-CBSEI consists of the four subscales that are the same as the original from Lowe: outcome expectancy active labor (Outcome-AL), self-efficacy expectancy active labor (Efficacy-AL), outcome expectancy second stage labor (Outcome-SS), and self-efficacy expectancy second stage labor (Efficacy-SS). However, Rungsiyanond (1997) reduced the response scale from a 10-point likert scale to a 5 likert-scale from “not at all helpful (score =1)” to “very helpful (score = 5)” for the outcome expectancy scales, and “not at all sure (score =1)” to “very sure (score =5)” for the self-efficacy expectancy scales. Each of the two active labor subscales (Outcome-AL and Efficacy-AL) has 15 items thus it yields a scale score from 15 to 75. Each of the second stage labor subscales (Outcome-SS and Efficacy-SS) has 16 items thus it yields a scale score from 16 to 80. A total childbirth outcome expectancy score was computed by summing the Outcome-AL and Outcome-SS scale scores thus it can yield a scale score from 31 to 155. A Total Self-efficacy expectancy score was computed by summing the Efficacy-AL and Efficacy-SS scale scores thus it can yield a scale score from 31 to 155. In each case, a high score indicates a higher level of self-efficacy or outcome expectancy for birth.

Additionally, to ensure appropriateness of the Thai version, Rungsiyanond (1997) tested the internal consistency and test-retest reliability of each instrument with twenty Thai pregnant women. The Cronbach's alpha coefficient was .85 for Outcome-AL, .86 for Efficacy-AL, .90 for Outcome-SS, and .87 for Efficacy-SS. The criteria of subjects that she used for estimating the reliability of Th-CBSEI were primiparas who attended the antenatal clinic at Buddachinaraj Hospital, Thailand and (a) who were between 20-35 years of age, and (b) had no medically diagnosed psychological problem (Rungsiyanond, 1997). The reliability of this Th-CBSEI, which was above .80, was considered acceptable.

Data Analysis

A number of steps were accomplished prior to the analysis and interpretation of the data. Initially all data from the demographic form, postnatal data form, and CBSEI were entered into an Excel database. The data were coded and recorded on a coding sheet. Before being entered into a data file, data were verified by a second individual to minimize error. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) Windows release 14.0.

A plan for management of missing data was developed. There were missing data from the income variables. Four respondents from the control and 10 respondents from the experimental group informed the researcher that they did not know how much they earned each month. Moreover, one from the control group and one from the experimental group refused to answer this item. Other missing data were from self-efficacy in coping

with labor pain. Two subjects from the experimental group did not give birth at Surin hospital, thus there were missing self-efficacy in coping with labor pain scores at O₃ data collection from these cases. Listwise deletion or complete case analysis was engaged in data analysis. The researcher omitted those cases with missing data and ran the analyses on what remained.

Descriptive statistics, including means, standard deviations, range of scores, frequencies, and percentage, were used to describe the characteristics of subjects and provide initial description of study variables. An Independent samples *t*-test (*t*-test) was used to determine the mean difference between the control group and experimental group on age, income, and educational level. Testing for assumptions regarding the *t*-test was conducted. The first assumption concerning the independence of the samples was met. To determine the normality of the dependent variable which was age, education, and income frequency distribution was examined. By dividing the skewness by the standard error of the skewness, and dividing the kurtosis by the standard error of the kurtosis, values that are greater than ± 1.96 were considered skewed. The normality of education, and income was acceptable. The normality of age in the control group was acceptable; however, the normality of age in the experimental group was violated. With a sample size of 15 cases per group might be sufficient for a *t*-test to yield a reasonably accurate *p* value even when the normality assumption is violated. This study has 30 cases per group; thus, *p* values may be fairly accurate. The last assumption of homogeneity of variance was checked with the Levene's test and the *t*-test scores were reported based on the Levene's test.

Chi-square (χ^2) was used to determine the association between occupations among these two groups. The assumptions regarding χ^2 were tested. The first assumption of frequency data was met. One assumption of χ^2 was violated in analysis of occupation. Only two participants in the experimental group documented their occupation as rice farmers which produced a cell with less than the expected frequency count of five. Thai women normally do the household work and also work in the fields during planting and harvesting which is considered to be “unpaid or contributing family workers”, thus the researcher collapsed housewife and rice farmer to be “unpaid family workers” and collapsed self-employed and employee to be “paid family workers”. Accordingly, the assumption of adequate sample size was met.

Statistics for Answering the Research Questions

All effects will be reported at a .05 level of significance. The following statistical analyses were performed to answer the research questions.

1. Does the level of self-efficacy in coping with labor pain significantly increase in Thai women after completion of a childbirth preparation class series?

Self-efficacy in coping with labor pain is composed of two dimensions which are self-efficacy expectancy and outcome expectancy. As per instruction from Lowe (1993), these two dimensions of self-efficacy in coping with labor pain under this study were analyzed separately. Self-efficacy in coping with labor pain is treated as interval-level data. To determine a significant increase in self-efficacy in coping with labor pain in Thai women after completion of a childbirth preparation class series, one-way repeated

measures ANOVA with one within-subjects variable (three times of measurement) was used. There were two major assumptions of one-way repeated measured ANOVA: the assumption of normality and the assumption of sphericity.

The first assumption of one-way repeated measures ANOVA is the normality distribution of the dependent variable which means that the distribution of self-efficacy in coping with labor pain in each of the two groups for each level of the within-subjects factor (three levels: pretest, posttest and follow-up) is normal. To determine this assumption, frequency distribution of self-efficacy in coping with labor pain was examined. Self-efficacy expectancy from the experimental group at follow-up (O_3) was not normally distributed with the skewness being 2.40 (Kolmogorov-Smirnov ($df = 28$), $p < .05$). Thus, the Logarithmic (Log10) transformation was performed with self-efficacy in coping with labor pain. Test of normality assumption was checked with these transformed data. The distribution remains skewed regardless of the transformation used. Therefore, the researcher made a decision to delete two outlier cases on the self-efficacy in coping with labor pain from the control group which made the control group have an equal size of subjects as the experimental group (28 subjects for each group). The assumption of normality was tested again after deleting the two outlier cases. This change improved skewness to 2.33. Thus, the data set of 56 cases was used to answer this research question. Although this was acceptable, the researcher has to interpret the findings with caution.

The second assumption for the one-way repeated measures ANOVA is the sphericity assumption or the homogeneity-of-variance-of-differences. Mauchly's test of

sphericity is typically used to check this assumption. A significant result from Mauchly's test means that the assumption of sphericity is likely to have been violated (Cardinal & Aitken, 2006). If this assumption is violated, the univariate results with an epsilon correction (ϵ) should be reported (Munro, 2005). Three epsilon factors corrections are provided by SPSS for windows: Greenhouse-Geisser, Huynh-Feldt, and lower bound. The correction for violation of Sphericity under this study was followed as the recommendation from Girden (1992) that if the epsilon > 0.75 then the df should be corrected using Huynh-Feldt; if the epsilon < 0.75 , or nothing is known about sphericity at all, then the df should be corrected using Greenhouse-Geisser.

2. Do Thai women who complete a childbirth preparation class report greater levels of self-efficacy in coping with labor pain in the postpartum period than women who receive standard prenatal care?

Self-efficacy in coping with labor pain is treated as interval level data. To determine a difference in self-efficacy in coping with labor pain in the experimental group and control group in the postpartum period, a t -test was used. The t -test was selected because it has been commonly used to compare two groups since the researcher has two groups for comparing the mean in self-efficacy in coping with labor pain which is treated as a continuous data.

There are assumptions associated with the t -test that must be met in order for the test to provide reliable results. The first assumption is the assumption of independence which means that each subject can contribute just one score to one of the two groups. This assumption was met in this study. The second assumption is that the distribution of

the dependent variable in each of the two groups is normal. To determine if the dependent variable, which was self-efficacy in coping with labor pain, was normally distributed, frequency distribution was examined. By dividing the skewness by the standard error of the skewness, values that are greater than ± 1.96 were considered skewed. Self-efficacy expectancy of the experimental group was not the normally distributed with the skewness being 2.33 (Kolmogorov-Smirnov ($df = 28$), $p < .05$). As mentioned in research question 1, after deletion of two outlier cases, the assumption of normality was improved, thus, independent samples t -test was run with the data set after deletion of the outlier cases. Although this assumption was robust, with this moderate sample size of 28 subjects per groups the independent samples t -test may yield accurate p values (Green & Salkind, 2008). The last assumption is that the variances of the dependent variable for the two groups are similar or homogeneity of variance. The procedures called Levene's test compute an approximate t -test that does not assume that the population variances are equal in addition to the traditional t -test that assumes equal population variances. If Levene's test is significant, the null hypothesis of equal populations is rejected, the equal variance not assumed is reported. If Levene's test is not significant then the equal variance assumed is reported.

3. Does the level of self-efficacy in coping with labor pain differ significantly between Thai women who attend childbirth preparation classes and those who receive standard prenatal care?

Self-efficacy in coping with labor pain is treated as interval level data. To determine a difference in self-efficacy in coping with labor pain in the experimental

group and control group across the three time periods, two-way mixed ANOVA or repeated measures ANOVA with one within-subjects variable (three times of measurement) and one between-subjects factor (two groups) was used. There were two independent variables being manipulated: group (experimental group and control group), and time at which self-efficacy in coping with labor pain was assessed (O_1 , O_2 , and O_3). The assumption of normality, sphericity, and homogeneity of variance were checked.

Four variables in this data set were not normally distributed: (1) self-efficacy expectancy from the experimental group at follow-up (O_3) [skewness = 2.40 Kolmogorov-Smirnov ($df = 28$), $p < .05$], (2) self-efficacy expectancy from the control group at the pre-test (O_1) [skewness = 2.52], (3) self-efficacy expectancy from the control group at the post-test (O_2) [skewness = 4.00, kurtosis = 4.18, Kolmogorov-Smirnov ($df = 30$), $p < .05$], and (4) self-efficacy expectancy from the control group at the follow-up (O_3) [kurtosis = 3.85]. Logarithmic (Log10) transformation did not correct the problem of non-normality. Deletion of the two outliers from the control group made the non-normality improve which left only self-efficacy at post-test still violating normality (skewness = 2.11, kurtosis = 2.09, Kolmogorov-Smirnov ($df = 28$), $p = .20$). Thus, the data set after deleted two outlier cases was used for answering this research question. Although this was acceptable, the researcher had to interpret the findings with caution.

Secondly, the assumption of sphericity was checked with the Mauchly's test. If the assumption of sphericity was violated, the criteria for the correction were the same as described in research question 1.

Lastly, the assumption of homogeneity of variance was checked with the Levene's test. When the two samples sizes are equal, there is little distortion to Type I error rates when this assumption is violated (Cardinal & Aitken, 2006).

4. Is there a difference in medication used during labor and delivery between pregnant women who participate in childbirth preparation program and pregnant women who receive regular standard care?

The researcher planned to conduct *t*-test for answering this question. However, since only one participant from the control group received medication during labor, the statistical procedure for this question was omitted.

5. Is there a difference in the duration of labor between pregnant women who participate in the childbirth preparation program and pregnant women who receive regular standard care?

Duration of labor is treated as interval level data. To determine a difference in the duration of labor in the experimental group and control group, the *t*-test was used. Testing of assumptions was developed. The first assumption concerning the independence of the samples was met. Secondly, the assumption of the normality of the dependent variable which was duration of labor was determined by the same method as described in research question 2. Lastly, the *t*-test scores were reported based on the Levene's test.

6. Is there a difference in the type of delivery between pregnant women who participate in childbirth preparation program and pregnant women who receive standard care?

Type of delivery is treated as nominal data with two groups: vaginal delivery and cesarean delivery. To determine a difference in type of delivery in experimental group and control group, χ^2 with 2 X 2 tables was used. Assumptions of χ^2 were checked. The first assumption is frequency data which is a count of number of subjects in each condition (type of delivery) under analysis. This assumption was met under this study. The second assumption is the adequate sample size in which none of the cells should be empty. Because 2 X 2 tables are being used to answer this question, expected frequencies are should be greater than or equal to five was requested and this assumption was met under this study.

Summary

Content from the childbirth preparation class curriculum and handbooks were found to be appropriate to use with Thai primiparous women through a pilot study. Also, the participants had no difficulty in completing the questionnaires. However, program evaluation by the participants indicated that it was difficult to attend all four classes. A high attrition rate was noted in the pilot study. As a result, the classes were reorganized so that content could be covered in three class sessions. Overall, the pilot study indicated that the data collection method in this study was feasible.

This main study was a quasi-experimental with pretest-posttest repeated measures design. Sixty primiparas were enrolled in a convenience sample from ANC, Surin Hospital. Thirty primiparas in an experimental group attended three childbirth class sessions over a three week period while 30 primiparas in a control group received standard antenatal care. Demographic form and CBSEI were used for collecting data

from the participants. The researcher completed a Medical record data sheet for each participant who delivered at Surin hospital. Repeated measures ANOVA, chi-square, and *t*-test were used to answer the research questions. Notably, retention was much higher in the main study with 96.67% retention.

CHAPTER FOUR

RESULTS

This chapter includes three sections. In the first section, characteristics of study participants are described. Descriptive statistics of the major variables are presented in the second section. Finally, data analysis addressing the research questions of this study is detailed in the third section.

Demographic Characteristics of Subjects

Thirty-one pregnant Thai women were recruited as the control group; however, one woman refused to participate. In all, 30 primiparas enrolled in the control group and completed all measurements (O_1 , O_2 , and O_3). Thirty primiparas were also recruited and enrolled into the experimental group. All participants in this group completed the pre-test (O_1), three sessions of childbirth classes, and post-test (O_2). However, only 28 completed the follow-up data at 24 to 48 hours after delivery (O_3) because two participants were moved to another hospital for delivery.

All participants were Buddhist and were married. On average, participants in the experimental group ($M = 21.40$, $SD = 3.6$) were younger than those from the control group ($M = 24.80$, $SD = 5.26$); the difference was statistically significant ($t(58) = 2.96$, $p < .05$). The average years of education in the experimental group ($M = 10.9$, $SD = 2.82$) was slightly higher than that of control group ($M = 10.0$, $SD = 3.32$). Also, average

income in the experimental group ($M = 6363.16$, $SD = 3359.35$) was higher than that reported in the control group ($M = 5568.00$, $SD = 2651.84$). The majority of participants from the experimental group (70%) worked as unpaid family workers while the majority from the control group (54.3%) worked as paid workers. However, differences in education, income, and occupation were not statistically significant between the groups (Table 3).

Table 3

Demographic Characteristics of Participants by Group (N=60)

Demographic variables	Experimental (n=30)		Control (n=30)		
	n	%	n	%	
Age (years)					<i>t</i> (58)
<20	12	40.0	9	30.0	= 2.96, <i>p</i> < .05
20-24	12	40.0	4	13.3	
25-29	5	16.7	10	33.3	
>30	1	3.3	7	23.3	
Min-Max	18-31		18-34		
<i>M</i>	21.40		24.80		
<i>SD</i>	3.60		5.26		
Educational level					<i>t</i> (58)
Primary school	4	13.3	9	30.0	= -1.17, <i>p</i> = .25
Middle High school	8	26.7	7	23.3	
High school	12	40.0	9	30.0	
Diploma	4	13.3	2	6.7	
Bachelor	2	6.7	3	10.0	
Min-Max	6-16		6-16		
<i>M</i>	10.93		10.00		
<i>SD</i>	2.82		3.32		
Income (THB /month)					<i>t</i> (42)
≤ 5,000	10	33.3	15	50.0	= -.88, <i>p</i> = .38
5,001-10,000	9	30.0	13	43.3	
> 10,000	1	3.3	0	0	
Refused to answer	1	3.3	1	3.3	
Not applicable	10	33.3	4	13.3	
Min-Max	2,000 – 13,000		1,000 – 10,000		
<i>M</i>	6363.16		5568.00		
<i>SD</i>	3359.35		2651.84		
Occupation					χ^2 (1, <i>N</i> = 60)
Unpaid family workers	21	70.0	14	46.7	= 3.36, <i>p</i> = .06
Paid workers	9	30.0	16	54.3	

Newborn Data

More girls were born to experimental group participants (53.57%) while an equal number of boys and girls were born in the control group. The average birth weight of infants born to mothers in the experimental group ($M = 2960.00$, $SD = 465.09$) was lower than the birth weight of infants in the control group ($M = 3070.17$, $SD = 433.57$). The difference in birth weight, however, was not statistically significant.

Table 4

Newborn Data of Participants by Group (N=58)

Newborn Data	Experimental (<i>n</i> =28)		Control (<i>n</i> =30)		
	<i>n</i>	%	<i>n</i>	%	
Sex of newborn					$\chi^2 (1, N = 58) = .074,$
Male	13	46.43	15	50.0	$p=.50$
Female	15	53.57	15	50.0	
Newborn birth weight (grams)					
< 2,500	5	17.86	2	6.67	$t(56) = .934, p=.75$
2,500-3,000	11	39.28	10	33.33	
> 3,001	12	42.86	18	60.00	
Min-Max	2,170 – 3,880		2,030 – 3,960		
<i>M</i>	2960.00		3070.17		
<i>SD</i>	465.09		433.57		

Descriptive Statistics for the Major Study Variables

Self-efficacy in coping with labor pain

Scores for both dimensions of self-efficacy in coping with labor pain-- self-efficacy expectancy and outcome expectancy—are summarized in Table 5. At the baseline, mean self-efficacy expectancy scores of the experimental group ($M = 89.97$, $SD = 13.93$) was higher than that of the control group ($M = 87.50$, $SD = 18.22$), however, the difference was not statistically significant, $t(58) = -.59$, $p = .56$, 95% CI = -13.70 (lower) to .63 (upper). In contrast, mean outcome expectancy scores in the experimental group ($M = 108.10$, $SD = 16.17$) was lower than that of the control group ($M = 111.93$, $SD = 18.69$); this difference was also not statistically significant, $t(58) = .85$, $p = .40$, 95% CI = -7.55 (lower) to 10.12 (upper).

At the post-test measurement, mean self-efficacy expectancy scores in the experimental group ($M = 98.29$, $SD = 19.23$) was higher than that of the control group ($M = 86.73$, $SD = 17.80$). Similarly, mean outcome expectancy from the experimental group ($M = 113.00$, $SD = 18.93$) was higher than that of the control group ($M = 108.60$, $SD = 21.90$).

At the follow-up measurement time point, mean self-efficacy expectancy scores from the experimental group ($M = 99.68$, $SD = 20.82$) was still higher than that of the control group ($M = 83.10$, $SD = 18.91$). In the same way, mean outcome expectancy of the experimental group ($M = 109.23$, $SD = 21.77$) was higher than that of the control group ($M = 98.33$, $SD = 23.53$).

Table 5

Descriptive Statistics for the Major Study Variables by Group and by Three Data Points

(N=60)

Group	Self-efficacy Expectancy			Outcome Expectancy		
	Range	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>
Pretest (O ₁)						
Control (<i>n</i> = 30)	57-138	87.50	18.22	76-152	111.93	18.69
Experimental (<i>n</i> = 30)	62-112	89.97	13.93	76-147	108.10	16.17
			<i>t</i> (58) = -.59, <i>p</i> = .56	<i>t</i> (58) = .85, <i>p</i> = .40		
Posttest (O ₂)						
Control (<i>n</i> = 30)	66-145	86.73	17.80	70-149	108.60	21.90
Experimental (<i>n</i> = 30)	57-132	98.29	19.23	66-146	113.00	18.93
Follow-up (O ₃)						
Control (<i>n</i> = 30)	43-145	83.10	18.91	45-148	98.33	23.53
Experimental (<i>n</i> = 28)	66-151	99.68	20.82	75-149	109.23	21.77

Data Analysis to Answer Research Questions

Research Question 1: Does the level of self-efficacy in coping with labor pain significantly increase in Thai women after completion of a childbirth preparation class series?

The relationship between self-efficacy in coping with labor pain and change over time was evaluated using a one-way repeated measure ANOVA. The findings on self-efficacy expectancy are summarized in Table 6. Mauchly's test indicated that the assumption of sphericity had been violated, $\chi^2(2) = 14.53, p < .005$. Because epsilon was less than 0.75, the degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = .70$). The results show that self-efficacy expectancy was significantly affected by the time of measurements, $F(1.40, 37.81) = 5.06, p < .05, r = .16$. Bonferroni post hoc tests revealed a significant difference only in the measurement between pre-test and post-test, 95% CI = -12.35 (lower), -2.86 (upper), $p < .005$. No other comparisons were significant (all $ps > .05$).

Table 6

ANOVA summary table for effects of time on self-efficacy expectancy in experimental group (N = 28)

Source	df	F	r	p
Time	1.40	5.06	.16	<.05
Error	37.81	(185.59)		
Total	39.21			

Note. Volumes enclosed in parentheses represent mean square errors.

The findings regarding outcome expectancy are summarized in Table 7. Mauchly's test indicated that the assumption of sphericity had been violated, $\chi^2(2) = 8.16, p < .005$. Because the epsilon was greater than 0.75, the degrees of freedom were corrected using Huynh-Feldt estimates of sphericity ($\epsilon = .83$). The results show that outcome expectancy was not significantly affected by the time of measurements, $F(1.67, 44.73) = 2.05, p = .14, r = .07$.

Table 7

ANOVA Summary Table for Effects of Time on Outcome Expectancy in Experimental Group (N = 28)

Source of variation	<i>df</i>	<i>F</i>	<i>r</i>	<i>p</i>
Time	1.66	2.05	.07	.14
Error	44.73	(187.40)		
Total	46.39			

Note. Volumes enclosed in parentheses represent mean square errors.

Research Question 2: Do Thai women who complete a childbirth preparation class report greater levels of self-efficacy in coping with labor pain in the postpartum period (O₃) than women who receive standard prenatal care?

An independent-samples *t*-test was conducted to answer this research question. The results indicated that in the postpartum period participants who completed the childbirth preparation class reported significantly higher mean self-efficacy expectancy scores ($M = 99.68, SD = 20.82$) than participants who received standard prenatal care

($M = 80.00$, $SD = 14.47$), $t(54) = -4.11$, $p < .001$ (Table 8). The 95% confidence interval for the difference in means ranged from -29.29 to -10.07. The eta square index (η^2) indicated that 24% of the variance of the self-efficacy expectancy was accounted for by whether or not the participant was assigned to the childbirth preparation class.

Similarly to self-efficacy expectancy, mean outcome expectancy scores in participants who completed childbirth preparation classes ($M = 109.32$, $SD = 21.89$) were statistically higher than those of participants who received standard prenatal care ($M = 95.79$, $SD = 21.77$), $t(54) = -2.32$, $p < .05$ (Table 8). The 95% confidence interval for the difference in means was quite wide, ranging from -25.32 (lower) to -1.84 (upper). The eta square index (η^2) indicated that only 10% of the variance of the self-efficacy expectancy was accounted for by whether the primiparas were assigned to a childbirth preparation classes or not.

Table 8

Independent Samples t-test for Self-Efficacy in Coping with Labor Pain at the Postpartum Period (N = 56)

Self-efficacy in coping with labor pain	Group	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Self-efficacy expectancy	Experimental	99.68	20.82	-4.11	<.001
	Control	80.00	14.47		
Outcome expectancy	Experimental	109.32	21.89	-2.32	<.05
	Control	95.79	21.77		

Research Question 3: Does the level of self-efficacy in coping with labor pain differ significantly between Thai women who attend childbirth preparation classes and those who receive standard prenatal care?

After the deletion of two outlier cases, data from the remaining sample of 56 participants was used to answer this question. Mauchly's test indicated that the assumption of sphericity had been violated, $\chi^2(2) = 37.24, p < .05$, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\varepsilon = .67$). Levene's test was not significant at pre-test measurement, $F(1, 54) = .80, p = .90$ and at follow-up measurement, $F(1, 54) = .32, p = .17$. However, Levene's test was statistically significant at post-test measurement, $F(1, 54) = 1.31, p < .05$.

Self-efficacy expectancy was not significantly affected by time of measurement, $F(1.33, 71.77) = 1.70, p = .19, r = .03$. The main effect of group on self-efficacy was statistically significant, $F(1, 54) = 14.66, p < .001, r = .22$, indicating that when the time at which self-efficacy expectancy was measured is ignored, self-efficacy expectancy in the experimental group was statistically significant different from scores of the control group. There was a significant interaction between the time when self-efficacy expectancy was measured and whether or not they attended childbirth preparation classes, $F(1.33, 71.77) = 6.34, p < .05, r = .11$. Specifically, experimental group means of self-efficacy expectancy scores increased dramatically over the times of measurement (Figure 3). In contrast, control group means of self-efficacy expectancy scores decreased dramatically over the times of measurement.

Table 9

Repeated Measure ANOVA Summary Table for the Effects of Group and Time on Self-Efficacy Expectancy (N = 56)

Source	<i>df</i>	<i>F</i>	<i>r</i>	<i>p</i>
Between subjects				
Group	1	14.66	.22	<.001
Error (between)	54	(542.70)		
Within subjects				
Time	1.33	1.70	.03	.19
Time X Group	1.33	6.34	.11	<.05
Error (within)	71.77	(147.70)		

Note. Volumes enclosed in parentheses represent mean square errors.

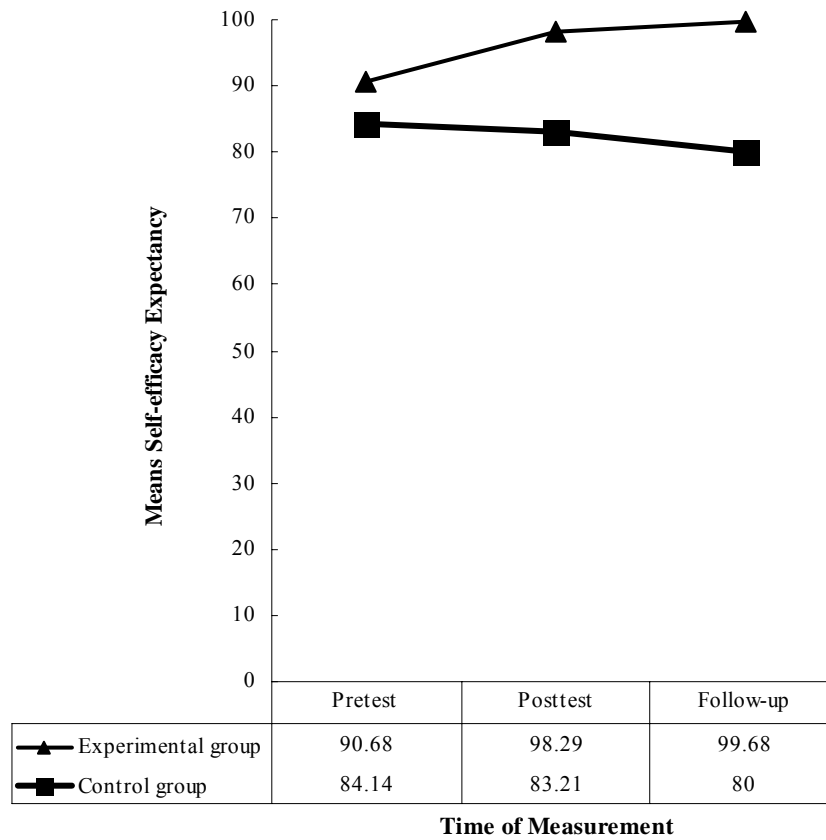


Figure 3. Mean Self-Efficacy Expectancy Scores of the Experimental Group and Control Group at Pretest, Posttest, and Follow-Up

The findings regarding outcome expectancy are summarized in Table 10. Mauchly's test indicated that the assumption of sphericity had been violated, $\chi^2(2) = 12.82, p < .05$. Because epsilon was greater than 0.75, the degrees of freedom were corrected using Huynh-Feldt estimates of sphericity ($\epsilon = .86$). At all three times of measurement, Levene's test was not significant (pretest, $F(1, 54) = .59, p = .45$, posttest, $F(1, 54) = 1.23, p < .27$, and follow-up measurement, $F(1, 54) = .06, p = .81$).

Outcome expectancy was significantly affected by the time of measurement, $F(1.72, 88.90) = 5.98, p < .005, r = .10$. The main effect of group on outcome expectancy was not statistically significant, $F(1, 54) = 2.69, p = .11, r = .05$, that is, when measurement time is ignored, outcome expectancy in the experimental group was not significantly different than the control group's scores. There was a significant interaction between the time at which outcome expectancy was measured and whether or not childbirth preparation classes were attended, $F(1.72, 935.18) = 4.83, p < .05, r = .08$. This indicated that attending the childbirth preparation classes affected outcome expectancy. Specifically, mean experimental group outcome expectancy scores increased dramatically between the pre-test and the post-test, and then decreased from the post-test to the follow-up (Figure 4). In contrast, control group outcome expectancy scores decreased dramatically over the three times of measurement. Bonferroni post hoc tests revealed a significant difference only in the measurement between post-test and follow-up, 95% CI = 2.32 (lower), 13.22 (upper), $p < .005$. No other comparisons were significant (all $p > .05$).

Table 10

Repeated Measure ANOVA Summary Table for the Effects of Group and Time on

Outcome Expectancy (N=56)

Source	<i>df</i>	<i>F</i>	<i>r</i>	<i>p</i>
Between subjects				
Group	1	2.69	.05	.11
Error (between)	54	(777.41)		
Within subjects				
Time	1.72	5.98	.10	<.005
Time X Group	1.72	4.83	.08	<.05
Error (within)	88.90	(193.52)		

Note. Volumes enclosed in parentheses represent mean square errors.

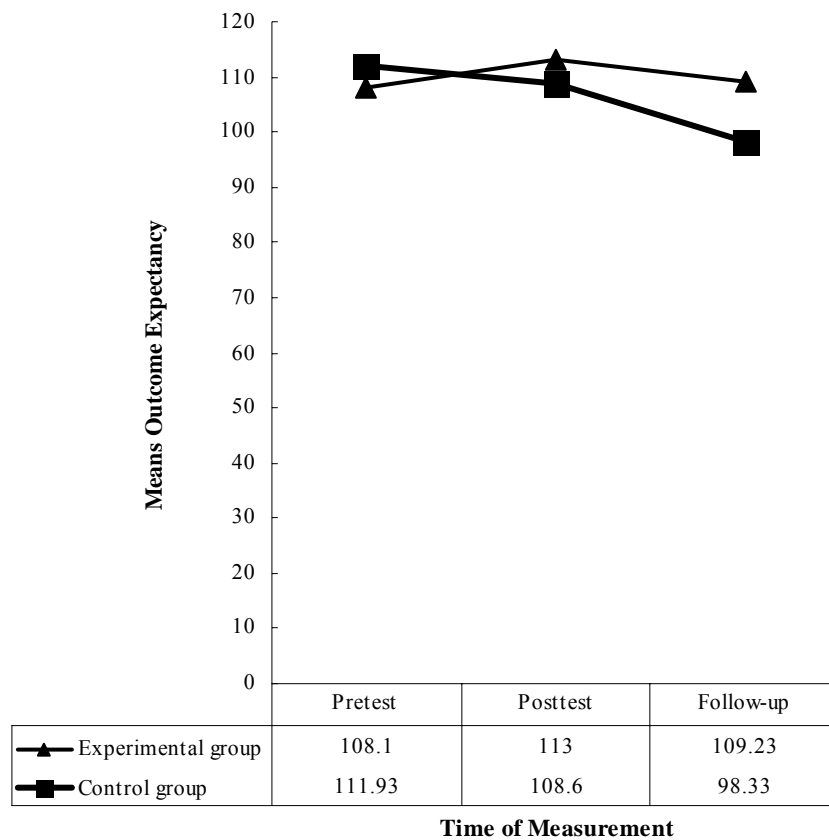


Figure 4. Mean Outcome Expectancy Scores of the Experimental Group and Control Group at Pretest, Posttest, and Follow-Up

Research Question 4: Is there a difference in medication use during labor and delivery between pregnant women who participate in childbirth preparation program and pregnant women who receive standard care?

Only one participant, a member of the control group, received one dose of opioid during the first stage of labor. Thus, this research question could not be analyzed statistically. However, one can conclude that there was no practical difference between

groups on medication use since only 1 of the 30 (3.33%) of the control group received medication during labor and delivery.

Research Question 5: Is there a difference in the duration of labor between pregnant women who participate in childbirth preparation program and pregnant women who receive standard care?

While duration of labor was longer in the experimental group ($M = 479.48$, $SD = 240.11$) than the control group ($M = 442.23$, $SD = 219.20$), the difference was not statistically significant (Table 11). The 95% confidence interval for the difference in means was quite wide ranging from -178.73 (lower) to 104.24 (upper). The eta square index (η^2) indicated that only 1.4% of the variance of the duration of labor was accounted for by whether a participant was assigned to an experimental group or a control group.

Table 11

Independent Samples t-test for Duration of Labor (N = 43)

Group	Range (Minute)	<i>M</i> (Minute)	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>
Experimental ($n = 21$)	100-790	479.48	240.11	40	-.53	.60
Control ($n = 22$)	205-1,005	442.23	219.20			

Research Question 6: Is there a difference in the type of delivery between pregnant women who participate in childbirth preparation program and pregnant women who receive standard care?

A two-way contingency table analysis was conducted to answer this question. Type of delivery was similar in the two groups with the majority of participants having a vaginal delivery (75.0% from the experimental group, and 73.3% from the control group), $\chi^2 (1, N = 58) = .021, p = .56$ as summarized on Table 12.

Table 12

Chi-square Table for Type of Delivery (N=58)

Type of Delivery	Experimental	Control	χ^2	<i>p</i>
Vaginal delivery	21 (75.0%)	22 (73.33%)	.021	.56
Cesarean delivery	7 (25.0%)	8 (26.67%)		

Additional Findings

Shortly after completion of the last childbirth preparation program, all participants in the experimental group were asked to evaluate the childbirth classes. All participants were satisfied with the childbirth preparation program and 73.3% stated that they were strongly satisfied with this childbirth program. Approximately 50% said that the information regarding non-pharmacological methods of coping with labor provided in this class was the most helpful; women particularly identified the breathing and

relaxation techniques were the most beneficial. More than 80% of the participants reported that they found everything in this program helpful. The remaining 20% wanted to know more on childbearing. Lastly, more than 90% confirmed that they will recommend this program to other pregnant women.

Summary

The study showed some partial effects of childbirth preparation classes on self-efficacy in coping with labor pain. Only one woman from the control group received an analgesic. However, there were no differences on duration of labor and type of delivery between experimental and control groups. About three-fourths of the participants from the experimental group were strongly satisfied with the childbirth preparation classes.

CHAPTER FIVE

DISCUSSION AND CONCLUSIONS

The purpose of this quasi-experimental study was to examine the effect of childbirth preparation classes on self-efficacy in coping with labor pain in Thai primiparas. A self-efficacy theory, adapted from Bandura, guided this study. A nonprobability sample of 61 Thai primiparas was recruited from ANC, Surin hospital, Thailand. Thirty women were recruited to participate as a control group receiving standard clinical care. Thirty additional women were recruited to participate in the experimental group receiving three sessions of childbirth preparation classes. In order to prevent cross-contamination, all control group data were collected before initiating enrollment of the experimental group. Data were collected at the beginning of week 1 to establish a baseline (O_1 : pretest), three weeks later for the control group or at the end of the third class which is the end of the intervention (O_2 : posttest) for the experimental group, and at 24-48 hours after delivery (O_3 : follow-up) using a demographic form, postnatal form, and the Childbirth Self-efficacy Inventory (CBSEI). CBSEI was developed by Lowe in 1993 and translated to Thai by Rungsiyanond in 1997. Two participants were missing from the follow-up measurement.

To answer the research questions, independent samples *t*-test, Chi-square, and repeated measures ANOVA were conducted using SPSS, 14.0. All statistical assumptions were checked before running these statistics. The distribution remained skewed regardless of the transformation used. Two outlier control group cases were not included

in the data analysis making equal sizes for both groups and improving the normality of the distribution.

Discussion of the Findings

Fifty-eight primiparas in Thailand completed this study – 30 in the control group and 28 in the experimental group. All participants were Buddhist and were married. Women in the experimental group were, on average, younger and had higher education levels. Paradoxically, women in the experimental group reported higher income levels than the control group even though more experimental group members worked as unpaid family workers. However, age was the only statistically significant difference between the groups ($t(58) = 2.96, p < .05$). Demographically, the total sample was young with 35% of the participants between the ages of 18 and 20. Of course, youth is expected with primiparas.

Self-Efficacy in Coping with Labor Pain

There were no significant differences between the groups at base-line measurement for either self-efficacy expectancy or outcome expectancy. However, differences emerged following the intervention although the effect size was small $F(1.40, 37.81) = 5.06, p < .05, r = .16$ (Table 6). When testing the differences in self-efficacy expectancy between the experimental group and the control group across three data points, there was a significant interaction between time of measurement, dimension of self-efficacy, and childbirth preparation class attendance with a small effect size, $F(1.33,$

71.77) = 6.34, $p < .05$, $r = .11$, (Table 9). When the time of measurement is ignored, self-efficacy expectancy scores were significantly different between the groups. Self-efficacy expectancy scores in the experimental group increased while mean scores in the control group decreased over time. This difference was statistically significant ($F(1, 54) = 14.66$, $p < .001$, $r = .22$, Table 9). These findings indicate that childbirth preparation classes have beneficial effects on self-efficacy expectancy for Thai primiparas.

These effects of childbirth classes on self-efficacy for pregnant women are consistent with previous studies. Other researchers have demonstrated the effect of childbirth classes in enhancing self-efficacy in coping with labor pain in Thai primiparas (Kumpala, 2003; Rungsiyanond, 1997). Childbirth classes provide multiple sources of information that heighten self-efficacy for labor (Dilks & Beal, 1997; Lowe, 1991). Self-efficacy in coping with labor pain increased vicariously through childbirth practice in class. In this study, experimental group participants had various opportunities to practice nonpharmacologic pain management techniques under the direction of the researcher. Theoretically, participants in the childbirth preparation classes increased their self-efficacy expectancy through their cognitive and behavioral preparations for birth, through the persuasive opinions of others such as the childbirth educators, and by visiting the labor and delivery unit. These class strategies help persuade participants that they are capable of performing any birth related tasks.

Knowledge of the labor process specifically enhances self-efficacy expectancy by decreasing fear related to childbirth and enhancing their perceived control of physiological and emotional states. More than 80% of the participants in this study

indicated that “everything in this program was most helpful.” These data provide further support for the findings of Drummond and Rickwood (1997) that knowledge about childbirth had significant effects on childbirth self-efficacy. By increasing women’s knowledge of labor and delivery, childbirth preparation classes also persuade women that enacting the requisite behaviors during labor is within their control. Role-playing behaviors through realistic practice sessions made women aware of the benefits of taking action.

Outcome expectancy data, however, differed in this study. When testing the difference in outcome expectancy between the groups across three data points, outcome expectancy scores were statistically significantly changed over time with a small effect size, $F(1.72, 88.90) = 5.98, p < .005, r = .10$ (Table 10). Moreover, there was a significant interaction between measurement time and whether or not women attended childbirth preparation classes with a small effect size, $F(1.72, 935.18) = 4.83, p < .05, r = .08$ (Table 10). However, the main effect of group on outcome expectancy was not statistically significant, $F(1, 54) = 2.69, p = .11, r = .05$ (Table 10). Outcome expectancy scores in the experimental group were not significantly different from those of the control group. Figure 4 illustrates that the mean control group outcome expectancy scores decreased over the three times of measurement; conversely, experimental group mean outcome expectancy scores increased dramatically between the pretest and the posttest. Interestingly, experimental group outcome expectancy scores decreased from the posttest to the follow-up. These data indicate that childbirth preparation classes have an immediate effect on outcome expectancy scores but the effect diminished as time from

class completion increased. Information and practice gained regarding non-pharmacologic strategies enhanced outcome expectancy in the experimental group. Program evaluations provided by the experimental group further supported the value of the knowledge gained. In these evaluations, some participants stated that non-pharmacologic methods provided in childbirth preparation classes were very helpful.

The decline of outcome expectancy after delivery was apparent both in the experimental and control group. The Bonferroni post hoc tests between each measurement time revealed a significant difference only in the measurement between posttest and follow-up, 95% CI = 2.32 (lower), 13.22 (upper), $p < .005$. There appear to be several possible explanations for these findings. First, pregnant women have individual expectations of the labor process. However, the reality of labor and birthing, particularly for the primipara, would likely involve experiences unanticipated by the woman (Lowe, 1991). As a result, a woman may enter the labor and delivery process with high self-efficacy expectation and outcome expectation.

The women may also have found that their planned strategies for coping with labor did not produce the anticipated outcomes. The pain management strategies may have only been effective in the latent phase when uterine contractions are infrequent and mild. During this phase, the woman is able to conduct self-care activities, to pay attention to the environment, to seek and receive information about pain relieving techniques, and to maintain self-control for appropriate practice. In contrast, the transition phase is the most difficult time to maintain control. A woman will face intense uterine contractions with only periods of relaxation. The strong and frequent contractions make it difficult for

a woman to cope (Righard, 2001). In addition, intense pain can impair a woman's ability to think clearly and to make decisions (Weber, 1996). As a result, a woman may be unable to maintain the emotional potency needed to focus on using nonpharmacologic methods; she may come to believe that they were not helpful.

In addition, attitudes and practices of health care providers are significant variables that can influence a woman's ability to cope with the pain of labor (Lowe, 1996, 2002). Labor nurses or other staff in the labor and delivery unit may have their own feelings about childbirth classes and may have different attitudes regarding the use of obstetrical interventions. They may vary in the degree to which they will support the woman's wishes; the health care professionals could promote, downgrade, or ignore the woman's birthing goals. In addition, obstetric management and bedside nursing care can completely dominate any effects of prenatal teaching. For example, during labor and delivery, the staff who support the childbirth classes may encourage the laboring women through contractions and keep them upright or mobile to lessen the need for pain medication. In this case, the laboring woman would have a good opportunity to perform non-pharmacologic management techniques and see the outcomes for herself. In contrast, some nursing staff may not value self-efficacy expectancy in laboring women. They may dissuade a woman's plans to use any nonpharmacologic strategies to control labor. Moreover, imbalance between the number of laboring women and health care providers in Thailand is still a major problem. Laboring women will give birth with the assistance from only one nurse and one nurse attendant. Nurses are not generally able to provide one to one nursing care. Thus, laboring women are mostly left to overcome labor

pain on their own. They generally lack nursing support to use nonpharmacologic labor management methods. Without the attention and advice of a nurse, women may experience poor behavioral performance, which they may perceive as failure.

Also, it is possible that the timing of data collection for outcomes in this study was conducted at a time in which participants were still experiencing significant discomfort associated with childbirth in addition to sleep deprivation, and postpartum perineal pain. A woman may experience muscle strain and stiffness from having her legs placed in the same position for hours. During the postpartum period, a woman can expect a variety of symptoms ranging from physical discomfort to emotional upsets; thus, she may not have anticipated the level of discomfort experienced as an outcome. The varieties of symptoms ranging from physical discomfort to emotional changes may have influenced the data measures regarding outcome expectancy. This may be helpful in explaining the decrease of outcome expectancy scores after delivery. Thus, the characteristics of staffs in labor and delivery should be investigated in future research.

However, additional examination of this data must include consideration of specific factors influencing these findings: the normality of variables, the homogeneity of variables among each group, and the small effect sizes.

Medication use during delivery

In the total sample, only one participant from the control group (3.33%) received an analgesic during the first stage of labor. The rate of medication use (Pethidine 50mg intramuscular injection) in Surin Hospital reportedly ranges from 2.33% to 7.89%. In this

study, the rate of medication use for all participants as a group was 2.35% (1 of 43).

Thus, the level of medication use under this study is similar to that of Surin hospital's usual practice.

There are two alternative explanations that could be used to gain an understanding about the medication use in labor. To Thais, the ability to keep silent is perceived to indicate the maturity of a woman. Thus, Thai women communicate labor pain via nonverbal channels and in a quiet manner (Pathanapong, 1990). This will lead nurses to underestimate pain levels in laboring women. Moreover, Thais are generally obedient to the requests of health care providers. Laboring women view the nurse as a professional who will know what each woman needs without being told. Thus, women who want pain medicine rarely ask for it; the Thai laboring woman waits passively for pain medication expecting that if the health care professional believes it is needed, it will be provided. As a consequence, Thai laboring women rarely receive pethidine regardless of the pain severity.

The second explanation comes from the service system. The protocol for pethidine is not well addressed in Surin hospital. Analgesic is usually given only to laboring women who are considered to be in severe pain. The labor nurse is free to request pethidine for her client when appropriate but the obstetrician may not wish to give it. As discussed previously, very often women will receive only one dose of pethidine throughout her laboring process. In addition, it is important to note that no instrument for assessment of pain intensity is available in the Labor and Delivery unit in Surin hospital. Future advancement in Thai nursing practice should include development

of a behavioral pain assessment tool and sensitivity training for labor staff to understand the pain management needs of laboring women.

Duration of labor

In this study, there was no difference in duration of labor among participants who attended childbirth classes and those who did not. These results are similar to those of Dusiyamee (2000), Sankasuwan (1999), and Veerakul, et al. (1991). Previous researchers found that duration of labor may be affected by the intensity of uterine contractions, the woman's pelvic and soft tissue structures, fetal size, and other significant psychological factors such as stress and anxiety. Future work should be conducted to understand the multi-factoral nature of duration of labor.

Type of Delivery

It is particularly interesting to note similarities and differences in the type of delivery between primiparas in the experimental and control groups. In both groups, two-thirds of the women experienced vaginal delivery. The findings imply that childbirth preparation classes do not have an effect on type of delivery. One interesting observation from this study was the cesarean delivery rate was quite high rate (approximately 25%). In Thailand, the obstetrician often pressures the woman to have unwanted procedures like a cesarean delivery so they can return to their plans/days/office hours undisturbed. They convince laboring women to have a cesarean delivery by the end of the day using the rationale of failure to progress. As previously mentioned, respect for and obedience to

authority figures and trust in their wisdom and protection are still strong influences in Thai culture (Chunuan, et al., 2007). Thus, when cesarean delivery is recommended, women seldom say no to the medical authority figure. Consequently, future investigations should examine the clinical indications for cesarean delivery in Thailand.

Conclusion

This quasi-experimental study examined the effect of a childbirth preparation class on self-efficacy in coping with labor pain in Thai primiparas. The non-probability convenience sample consisted of sixty primiparas assigned to either a control or an experimental group (thirty in each group). In order to prevent cross-contamination, all control group data were collected before initiating enrollment of the experimental group. The control group participants received standard care and education. Participants in the experimental group attended three childbirth classes over three consecutive weeks. Data were collected at the beginning of the week 1 to establish a baseline (pretest), at the end of the third class (posttest), and at 24-48 hour after delivery (follow-up) using a demographic form and the Childbirth Self-efficacy Inventory.

All participants were Buddhist and were married. Participants in the experimental group were younger, had higher education, and had higher income although more worked as unpaid family workers, but these differences were not statistically significant. However, the average age of the two groups was statistically significant difference, $t(58) = 2.96, p < .05$.

There were no group differences in self-efficacy expectancy or outcome expectancy at the base-line. However, experimental group self-efficacy expectancy scores increased dramatically across three data points. In the control group, self-efficacy expectancy scores decreased across three data points. Attending the childbirth preparation classes enhanced self-efficacy expectancy in the experimental group.

Outcome expectancy scores were different from self-efficacy expectancy. Scores in the control decreased dramatically across three data points. In the experimental group, scores increased after the class and then decreased after birth but remained higher than scores at baseline. There was an interaction between time at which outcome expectancy was measured and group, $F(1.72, 935.18) = 4.83$, $p < .05$. This indicated that attending the childbirth preparation classes affected the outcome expectancy but with a very small effect size ($r = .08$). Moreover, outcome expectancy scores in the experimental group were not significantly different than the control group scores, $F(1, 54) = 2.69$, $p = .11$. However, outcome expectancy was significantly different over time. Bonferroni post hoc tests revealed a significant difference in the measurements between post-test and follow-up.

About seventy-five percent of participants from the experimental group were very satisfied with the childbirth preparation classes. The study found a partial effect of childbirth preparation classes on self-efficacy in coping with labor pain. The relatively small effect size reflects the high degree of variability issues surrounding a woman experience of pain and all measures related to self-efficacy in coping with labor pain. This indicates a need for further study.

Theoretical and Methodological Issues

Theoretical Issues

Bandura's Self-efficacy theory was used to develop the conceptual framework for this study. Bandura defined four sources of self-efficacy which were mastery experiences, vicarious experience, social persuasion, and physiologic and emotional states. Childbirth preparation classes designed for this study were built to use three sources of self-efficacy to promote coping with labor pain. In accordance with this theory, self-efficacy information can be used in childbirth classes to enhance and verify the pregnant woman's belief in her ability to cope with labor. Self-efficacy theory provides a useful way to develop nursing intervention and to guide nursing research. However, this study lacked information regarding mastery, the most powerful source of self-efficacy. Participants in this study were all primiparas without previous labor and delivery experience. Further research is needed to see whether mastery experiences might advance the self-efficacy in coping with labor pain in Thai primiparas.

In addition, this study did not examine questions beyond the direct effect of self-efficacy on health behaviors—pain coping behaviors and the outcome of self-efficacy in coping with labor pain. Relevant antecedents have not been addressed. Future investigations with this model should include the antecedents, behaviors, and outcome of those behaviors. Findings from the underlying reciprocal relationship among these variables can provide a deeper understanding of self-efficacy in coping with labor pain.

Methodological Issues

Internal Validity

In this study, selection is the greatest threat to internal validity. Nonrandom procedures were used to assign participants and the study was conducted in sequential phases (control group data was completed prior to initiating procedures with the experimental group). Thus, these groups could differ with regard to variables that affect self-efficacy in coping with labor pain. Indeed, the groups in this study did differ in age.

External Validity

Because this study included a non-probability sample, the degree that the sample represents the population of Thai primiparas is limited. In addition, findings from this study might not be representative of other primiparas who do not attend antenatal clinic. Information gathered through this study is meaningful within the population studied.

Implications for nursing

These findings are consistent with previous studies that have demonstrated the effect of childbirth preparation classes in enhancing the level of self-efficacy in coping with labor pain in Thai primiparas. It facilitates pregnant women in the translation of knowledge of dealing with labor and delivery. Women were provided clear information about labor pain that would match the actual birth experience. All of this health information should help pregnant women to increase their ability to cope with labor pain

and may decrease their fear related to giving birth, ultimately providing a more positive childbirth experience.

These findings may facilitate change in prenatal care in Thailand. This study indicates the need for reorganization in care to help women prepare to cope with the realities that they may confront at the time of birth. Health education provided to pregnant women should be more than information-giving. It should be health education aimed at development of abilities, competencies, and good attitudes toward labor and delivery with the ultimate goal being a successful and positive childbirth experience. Findings from this study regarding the effects of childbirth preparation classes provide nurses and health care providers an evidence-based intervention that can be translated to prenatal care for pregnant women and lead to significant change in usual nursing care in Thailand.

Finally, nursing instructors can use the findings from this study to implement their curriculum. The findings of this study support the usefulness of Bandura's self-efficacy theory to understand coping with labor pain. The nurse instructor should use this model to guide nursing students in developing nursing interventions. In teaching specific topics, such as nursing care for pregnant women, nurse instructors may use these findings to teach self-efficacy concepts and to identify strategies to increase self-efficacy. Furthermore, in clinical nursing courses focused on health promotion and/or health education, nurse instructors should emphasize strategies and techniques that students can use to enhance laboring woman's ability to cope with labor pain.

Future Nursing Research

Based on the findings of this study, recommendations for future research are as follows:

1. Since there was a statistically significant difference in age between the experimental and control group, randomization should be planned in the next study. Random assignment would assure the researcher that the experimental and control group are equivalent, minimizing effects of group differences that could affect outcome measures.

2. An important research question remains: Are the consequences of self-efficacy in coping with labor pain related to pain scores and pain coping behavior? Future studies should compare primiparas who attend childbirth preparation classes and those who do not to determine the difference between pain scores and pain coping behaviors during labor. Specifically, future studies should determine whether teaching coping techniques in childbirth preparation classes translate into their use in labor and delivery.

3. Future research should also examine antecedent variables that may have a strong affect on self-efficacy in coping with labor. These variables may include prior experiences with pain including nongynecologic pain, stress and anxiety related to labor and delivery, a priori decisions regarding birth choices, and the women's attitudes toward pain medication.

4. The influence of health care professionals on the birth experience should also be examined in the Thai health care setting. Characteristics of labor and delivery nurses and their attitudes toward childbirth are significant aspects of the Thai childbirth

experience since they are the sole support resource for laboring women in Thai public hospitals. A better understanding of the relationship among these variables can help us to develop more effective childbirth preparation class.

5. Mastery experience, the most powerful source of self-efficacy, should be studied in the context of childbirth preparation classes comparing primiparas' and multiparas' labor and delivery process.

6. Last but not least, the normality of variables in this study should be taken into the account. Thus, future study with larger participant numbers is required to replicate and extend the research in this area.

Summary

This chapter has summarized the study and presented its conclusions. Implications of the study regarding nursing were discussed and recommendations for future research were provided. The findings from this study contribute to the deep understanding of the effect of childbirth classes that will be useful for the development of prenatal services or other health campaigns. It also provided guidelines for future research.

Appendix A: Instruments (English/Thai)

Demographic Form

ID.....

ANC No.....

HN.....

Group

☐ 0. Control

☐ 1. Experimental

I. Demographic Data

1. Age..... (Years)

2. Religion

☐ 1. Buddhism

☐ 2. Christian

☐ 3. Islam

☐ 4. Other (Please specify).....

3. Education.....

☐ 1. Pratomsuksa (6 yrs)

☐ 2. Mathayomsuksa 1-3 (9 yrs)

☐ 3. Mathayomsuksa 4-6 (12 yrs)

☐ 4. Diploma (14 yrs)

☐ 5. Bachelor (16 yrs)

☐ 6. Master (18 yrs)

4. Family income..... Baht/month

5. Occupation.....

☐ 1. Housewife

☐ 2. Employee

☐ 3. Small business owner

☐ 4. Agriculturist

☐ 5. Government personnel

☐ 6. Other (Please specify).....

Postnatal Data

II. Obstetric Data

- 8. Weeks of gestation.....weeks
- 9. Number of Times receiving antenatal care.....
- 10. Length of labor.....hours
- 11. Delivery date.....
- 12. Delivery time.....
- 13. Delivery type.....
- 14. Episiotomy.....
- 15. Credential of person performing delivery.....
- 16. Anesthesia.....
Dose times...../...../...../.....
- 17. Analgesia.....
Dose times...../...../...../.....

III. Newborn Data

- 18. Sex
 - () 1.Male
 - () 2.Female
- 19. Weight.....grams
- 20. Apgar scores.....

IV. Please feel free to give any suggestions.

Please tell how satisfied you are with the childbirth preparation classes.

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What information of class topic was most helpful?

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Is there anything we should not include in future classes?

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Would you recommend this class to other pregnant women?

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Childbirth Self-efficacy Inventory (CBSEI)

This questionnaire aims to determine your belief, your thought, and your attitude toward on outcome expectancy and self-efficacy expectancy in coping with labor.

Part I

Directions: Imagine how labor will be and feel when you are having contractions 5 minutes apart or less. For each of the following behaviors, indicate how helpful you feel the behavior could be in helping you cope with this part of labor.

Put a ✓ in the box number 1 if that behavior is not at all helpful.

Put a ✓ in the box number 2 if that behavior is less helpful.

Put a ✓ in the box number 3 if that behavior is much helpful.

Put a ✓ in the box number 4 if that behavior is most helpful.

Put a ✓ in the box number 5 if that behavior is very helpful.

Statements	1 Not at all helpful	2 Less helpful	3 Much helpful	4 Most helpful	5 Very helpful
1. Relax my body.					
2. Get ready for each contraction.					
3. Use breathing during labor contractions.					
4. Keep myself in control.					
5. Think about relaxing.					
6. Concentrate on an object in the room to distract myself.					
7. Keep myself calm.					
8. Concentrate on thinking about the body.					
9. Stay on top of each contraction.					
10. Think positively.					
11. Not think about the pain.					
12. Tell myself than I can do it.					
13. Think about others in my family.					
14. Concentrate in getting through one contraction at a time.					
15. Listen to encouragement from the person helping me.					

Part I continued

Continue to imagine how the labor will be and feel when you are having contractions 5 minutes apart or less. For each behavior, indicate how certain you are of your ability to use the behavior to help you cope with this part of labor by

Put a ✓ in the box number 1 if you not at all sure of your ability to use the behavior to help you cope with labor.

Put a ✓ in the box number 2 if you less sure of your ability to use the behavior to help you cope with labor.

Put a ✓ in the box number 3 if you much sure of your ability to use the behavior to help you cope with labor.

Put a ✓ in the box number 4 if you mostly sure of your ability to use the behavior to help you cope with labor.

Put a ✓ in the box number 5 if you completely sure of your ability to use the behavior to help you cope with labor.

Statements	1 Not at all sure	2 Less sure	3 Much sure	4 Mostly sure	5 Completely sure
16. Relax my body.					
17. Get ready for each contraction.					
18. Use breathing during labor contractions.					
19. Keep myself in control.					
20. Think about relaxing.					
21. Concentrate on an object in the room to distract myself.					
22. Keep myself calm.					
23. Concentrate on thinking about the body.					
24. Stay on top of each contraction.					
25. Think positively.					
26. Not think about the pain.					
27. Tell myself than I can do it.					
28. Think about others in my family.					
29. Concentrate in getting through one contraction at a time.					
30. Listen to encouragement from the person helping me.					

Part II

Directions: Imagine how the labor will be and feel when you are pushing your baby out to give birth. For each of the following behaviors, indicate how helpful you feel the behavior could be in helping you cope with this part of labor.

Put a ✓ in the box number 1 if that behavior is not at all helpful.

Put a ✓ in the box number 2 if that behavior is less helpful.

Put a ✓ in the box number 3 if that behavior is much helpful.

Put a ✓ in the box number 4 if that behavior is most helpful.

Put a ✓ in the box number 5 if that behavior is very helpful.

Statements	1 Not at all helpful	2 Less helpful	3 Much helpful	4 Most helpful	5 Very helpful
31. Relax my body.					
32. Get ready for each contraction.					
33. Use breathing during labor contractions.					
34. Keep myself in control.					
35. Think about relaxing.					
36. Concentrate on an object in the room to distract myself.					
37. Keep myself calm.					
38. Concentrate on thinking about the body.					
39. Stay on top of each contraction.					
40. Think positively.					
41. Not think about the pain.					
42. Tell myself than I can do it.					
43. Think about others in my family.					
44. Concentrate in getting through one contraction at a time.					
45. Focus on the person helping me in labor.					
46. Listen to encouragement from the person helping me.					

Part II continued

Continue to think about how you imagine labor will be and feel when you are pushing your baby out to give birth. For each behavior, indicate how certain you are of your ability to use the behavior to help you cope with this part of labor by

Put a ✓ in the box number 1 if you not at all sure of your ability to use the behavior to help you cope with labor.

Put a ✓ in the box number 2 if you less sure of your ability to use the behavior to help you cope with labor.

Put a ✓ in the box number 3 if you much sure of your ability to use the behavior to help you cope with labor.

Put a ✓ in the box number 4 if you mostly sure of your ability to use the behavior to help you cope with labor.

Put a ✓ in the box number 5 if you completely sure of your ability to use the behavior to help you cope with labor.

Statements	1 Not at all sure	2 Less sure	3 Much sure	4 Mostly sure	5 Completely sure
47. Relax my body.					
48. Get ready for each contraction.					
49. Use breathing during labor contractions.					
50. Keep myself in control.					
51. Think about relaxing.					
52. Concentrate on an object in the room to distract myself.					
53. Keep myself calm.					
54. Concentrate on thinking about the body.					
55. Stay on top of each contraction.					
56. Think positively.					
57. Not think about the pain.					
58. Tell myself than I can do it.					
59. Think about others in my family.					
60. Concentrate in getting through one contraction at a time.					
61. Focus on the person helping me in labor.					
62. Listen to encouragement from the person helping me.					

แบบบันทึกข้อมูลส่วนบุคคล

ID.....

ANC No.....

HN.....

1. ท่านเกิดเมื่อวันที่.....เดือน.....พ.ศ.....

2. ศาสนาที่ท่านนับถืออยู่

() 1. พุทธ

() 2. คริสต์

() 3. อิสลาม

() 4. อื่น ๆ (โปรดระบุ).....

3. ระดับการศึกษาสูงสุดของท่านคือ

() 1. ประถมศึกษา (6 ปี)

() 2. มัธยมศึกษาปีที่ 1-3 (9 ปี)

() 3. มัธยมศึกษาปีที่ 4-6 (12 ปี)

() 4. ประกาศนียบัตร (14 ปี)

() 5. ปริญญาตรี (16 ปี)

() 6. ปริญญาโท (18 ปี)

4. รายได้ของครอบครัว.....บาท/เดือน

5. อาชีพของท่านคือ

() 1. แม่บ้าน

() 2. ลูกจ้าง

() 3. ธุรกิจส่วนตัว

() 4. เกษตรกรรม

() 5. รับราชการ

() 6. อื่น ๆ (โปรดระบุ).....

Postnatal Data

II. Obstetric Data

- 8. Weeks of gestation.....weeks
- 9. Number of Times receiving antenatal care.....
- 10. Length of labor.....hours
- 11. Delivery date.....
- 12. Delivery time.....
- 13. Delivery type.....
- 14. Episiotomy.....
- 15. Credential of person performing delivery.....
- 16. Anesthesia.....
Dose times...../...../...../.....
- 17. Analgesia.....
Dose times...../...../...../.....

III. Newborn Data

- 18. Sex
 - () 1.Male
 - () 2.Female
- 19. Weight.....grams
- 20. Apgar scores.....

IV. ขอให้ท่านแสดงความคิดเห็นในหัวข้อดังต่อไปนี้อย่างเต็มที่

ท่านมีความพึงพอใจในการเตรียมตัวตลอดที่ได้รับในครั้งนี้มาก-น้อยเพียงใด

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ความรู้ด้านใดที่ท่านคิดว่ามีประโยชน์ต่อท่านมากที่สุด

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ท่านคิดว่าควรมีการเพิ่มเติมความรู้ด้านใดหรือไม่

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ท่านคิดว่าท่านจะแนะนำการเตรียมตัวตลอดแก่หญิงตั้งครรภ์ท่านอื่นหรือไม่

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แบบวัดการรับรู้ความสามารถของตนเองและความคาดหวังผลลัพธ์ในการเผชิญกับภาวะเจ็บครรภ์

แบบวัดนี้เป็นเครื่องมือที่ใช้ในการวิจัย ซึ่งสอบถามเกี่ยวกับความเชื่อ ความรู้สึกและความคิดเห็นของหญิงมีครรภ์ต่อความคาดหวังผลลัพธ์ และการคาดหวังความสามารถของตนเองในการเผชิญกับภาวะเจ็บครรภ์ โดยแบบวัดนี้ประกอบด้วยข้อคำถาม 2 ส่วน ส่วนที่ 1 มี 30 ข้อ และส่วนที่ 2 มี 32 ข้อ

แบบวัดส่วนที่ 1

คำชี้แจงในการตอบแบบวัด

ข้อความต่อไปนี้เป็นการถามความคาดหวังผลลัพธ์ และการคาดหวังความสามารถในการเผชิญกับภาวะเจ็บครรภ์ โดยให้ท่านจินตนาการว่าขณะนี้ท่านเริ่มมีอาการเจ็บครรภ์เกิดขึ้น มดลูกมีการหดตัวอย่างน้อย 5 นาทีต่อครั้ง หรือน้อยกว่า ท่านกำลังอยู่ในระยะที่หนึ่งของการคลอด สำหรับข้อความในข้อ 1-15 ให้ท่านอ่านข้อความแต่ละข้อ แล้วพิจารณาว่าข้อความนั้น ๆ มีประโยชน์หรือไม่ ในการช่วยควบคุมความเจ็บปวดในระยะเจ็บครรภ์ ถ้าท่านคิดว่าพฤติกรรมหรือการกระทำที่ระบุในข้อความนั้น

- | | | |
|----------------------------------|-----|---|
| ไม่มีประโยชน์ | คือ | ไม่ช่วยให้ท่านสามารถควบคุมความเจ็บปวดได้ ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 1 |
| มีประโยชน์เล็กน้อย | คือ | ช่วยให้ท่านสามารถควบคุมความเจ็บปวดได้เล็กน้อย ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 2 |
| มีประโยชน์ปานกลาง | คือ | ช่วยให้ท่านสามารถควบคุมความเจ็บปวดได้ปานกลาง ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 3 |
| มีประโยชน์มาก | คือ | ช่วยให้ท่านสามารถควบคุมความเจ็บปวดได้มาก ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 4 |
| มีประโยชน์อย่างยิ่งหรือมากที่สุด | คือ | ช่วยให้ท่านสามารถควบคุมความเจ็บปวดได้มากที่สุด ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 5 |

ข้อความ	1 ไม่มี ประโยชน์	2 มี ประโยชน์ เล็กน้อย	3 มี ประโยชน์ ปานกลาง	4 มี ประโยชน์ มาก	5 มีประโยชน์ อย่างยิ่ง/มาก ที่สุด
1.การผ่อนคลายส่วนต่าง ๆ ของร่างกาย					
2.การเตรียมตัวให้พร้อมต่อการหดตัวของมดลูกในแต่ละครั้ง					
3.การใช้เทคนิคการหายใจในขณะมดลูกหดตัว					
4.การควบคุมตนเองขณะเจ็บครรภ์					
5.การคิดถึงสิ่งที่ทำให้รู้สึกผ่อนคลาย					
6.การเพ่งจุดสนใจไปที่วัตถุหรือสิ่งของอย่างใดอย่างหนึ่งเพื่อเบี่ยงเบนความสนใจจากความเจ็บปวด					
7.การทำให้ร่างกายและจิตใจอยู่ในภาวะสงบ ไม่ตื่นเต้นตกใจ					
8.การมุ่งความสนใจอยู่ที่ทารกในครรภ์					
9.การควบคุมตนเองให้มีสติตลอดเวลาขณะมดลูกหดตัว					
10.การคิดในแง่ดีเกี่ยวกับการคลอด					
11.การไม่ให้ความสนใจหรือพยายามไม่คิดถึงความเจ็บปวด					
12.การบอกหรือเตือนตัวเองว่าฉันสามารถควบคุมความเจ็บปวดได้					
13.การคิดถึงบุคคลอื่น ๆ ในครอบครัว					
14.การเพ่งจุดสนใจที่จะผ่านพ้นระยะที่มีมดลูกหดตัวในแต่ละครั้ง					
15.การรับฟังคำให้กำลังใจจากผู้ที่มีความช่วยเหลือหรือผู้ดูแล					

แบบวัดส่วนที่ 1 (ต่อ)

สำหรับข้อความในข้อ 16-30 ให้ท่านอ่านข้อความแต่ละข้อ แล้วพิจารณาว่าท่านมีความมั่นใจมากน้อยเพียงใดที่จะกระทำพฤติกรรมนั้น เพื่อควบคุมความเจ็บปวดในระยะเจ็บครรภ์

ถ้าท่านไม่มีความมั่นใจที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะเจ็บครรภ์ ให้ทำเครื่องหมาย ✓ ในช่อง
หมายเลข 1

ถ้าท่านมีความมั่นใจเล็กน้อย ที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะเจ็บครรภ์ ให้ทำเครื่องหมาย ✓ ในช่อง
หมายเลข 2

ถ้าท่านมีความมั่นใจปานกลาง ที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะเจ็บครรภ์ ให้ทำเครื่องหมาย ✓ ในช่อง
หมายเลข 3

ถ้าท่านมีความมั่นใจมาก ที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะเจ็บครรภ์ ให้ทำเครื่องหมาย ✓ ในช่อง
หมายเลข 4

ถ้าท่านมีความมั่นใจมากที่สุดที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะเจ็บครรภ์ ให้ทำเครื่องหมาย ✓ ในช่อง
หมายเลข 5

ข้อความ	1 ไม่มีความ มั่นใจ	2 มั่นใจ เล็กน้อย	3 มั่นใจปาน กลาง	4 มั่นใจมาก	5 มั่นใจ มากที่สุด
16.การผ่อนคลายส่วนต่าง ๆ ของร่างกาย					
17.การเตรียมตัวให้พร้อมต่อการหดตัวของมดลูกในแต่ละครั้ง					
18.การใช้เทคนิคการหายใจในขณะมดลูกหดตัว					
19.การควบคุมตนเองขณะเจ็บครรภ์					
20.การคิดถึงสิ่งที่ทำให้รู้สึกผ่อนคลาย					
21.การเพ่งจุดสนใจไปที่วัตถุหรือสิ่งของอย่างใดอย่างหนึ่งเพื่อเบี่ยงเบนความสนใจจากความเจ็บปวด					
22.การทำให้ร่างกายและจิตใจอยู่ในภาวะสงบ ไม่ตื่นเต้นตกใจ					
23.การมุ่งความสนใจอยู่ที่ทารกในครรภ์					
24.การควบคุมตนเองให้มีสติตลอดเวลาขณะมดลูกหดตัว					
25.การคิดในแง่ดีเกี่ยวกับการคลอด					
26.การไม่ให้ความสนใจหรือพยายามไม่คิดถึงความเจ็บปวด					
27.การบอกหรือเตือนตัวเองว่าฉันสามารถควบคุมความเจ็บปวดได้					
28.การคิดถึงบุคคลอื่น ๆ ในครอบครัว					
29.การเพ่งจุดสนใจที่จะผ่านพ้นระยะที่มดลูกหดตัวในแต่ละครั้ง					
30.การรับฟังคำให้กำลังใจจากผู้ที่มีความช่วยเหลือหรือผู้ดูแล					

แบบวัดส่วนที่ 2

คำชี้แจงในการตอบแบบวัด

ข้อความต่อไปนี้เป็นการถามความคาดหวังผลลัพธ์ และการคาดหวังความสามารถในการเผชิญกับภาวะเจ็บครรภ์ในระยะที่สองของการคลอด โดยให้ท่านจินตนาการว่าท่านกำลังเจ็บครรภ์จากการหดตัวของมดลูกที่มีความรุนแรงเพิ่มมากขึ้นและท่านกำลังเบ่งคลอดทารกในครรภ์ ท่านกำลังอยู่ในระยะที่สองของการคลอด สำหรับข้อความในข้อ 31-46 ให้ท่านอ่านข้อความแต่ละข้อ แล้วพิจารณาว่าข้อความนั้น ๆ มีประโยชน์หรือไม่ ในการช่วยควบคุมความเจ็บปวดในระยะเจ็บครรภ์ ถ้าท่านคิดว่าพฤติกรรมหรือการกระทำที่ระบุในข้อความนั้น

ไม่มีประโยชน์ คือ ไม่ช่วยให้ท่านสามารถควบคุมความเจ็บปวดได้ ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 1

มีประโยชน์เล็กน้อย คือ ช่วย让您สามารถควบคุมความเจ็บปวดได้เล็กน้อย ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 2

มีประโยชน์ปานกลาง คือ ช่วย让您สามารถควบคุมความเจ็บปวดได้ปานกลาง ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 3

มีประโยชน์มาก คือ ช่วย让您สามารถควบคุมความเจ็บปวดได้มาก ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 4

มีประโยชน์อย่างยิ่งหรือมากที่สุด คือ ช่วย让您สามารถควบคุมความเจ็บปวดได้มากที่สุด ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 5

ข้อความ	1 ไม่มี ประโยชน์	2 มี ประโยชน์ เล็กน้อย	3 มี ประโยชน์ ปานกลาง	4 มี ประโยชน์ มาก	5 มี ประโยชน์ อย่างยิ่ง/ มากที่สุด
31.การผ่อนคลายส่วนต่าง ๆ ของร่างกาย					
32.การเตรียมตัวให้พร้อมต่อการหดตัวของมดลูกในแต่ละครั้ง					
33.การใช้เทคนิคการหายใจในขณะที่มดลูกหดตัว					
34.การควบคุมตนเองในขณะที่เจ็บครรภ์					
35.การคิดถึงสิ่งที่ทำให้รู้สึกผ่อนคลาย					
36.การเพ่งจุดสนใจไปที่วัตถุหรือสิ่งของอย่างใดอย่างหนึ่งเพื่อเบี่ยงเบนความสนใจจากความเจ็บปวด					
37.การทำให้ร่างกายและจิตใจอยู่ในภาวะสงบ ไม่ตื่นเต้นตกใจ					
38.การมุ่งความสนใจอยู่ที่ทารกในครรภ์					
39.การควบคุมตนเองให้มีสติตลอดเวลาขณะมดลูกหดตัว					
40.การคิดในแง่ดีเกี่ยวกับการคลอด					
41.การไม่ให้ความสนใจหรือพยายามไม่คิดถึงความเจ็บปวด					
42.การบอกหรือเตือนตัวเองว่าฉันสามารถควบคุมความเจ็บปวดได้					
43.การคิดถึงบุคคลอื่น ๆ ในครอบครัว					
44.การเพ่งจุดสนใจที่จะผ่านพ้นระยะที่มีมดลูกหดตัวในแต่ละครั้ง					
45.การมุ่งความสนใจไปยังบุคคลที่มาช่วยเหลือในการคลอด					
46.การรับฟังคำให้กำลังใจจากผู้ให้ความช่วยเหลือหรือผู้ดูแล					

แบบวัดส่วนที่ 2 (ต่อ)

สำหรับข้อความในข้อ 47-62 ให้ท่านอ่านข้อความแต่ละข้อ แล้วพิจารณาว่าท่านมีความมั่นใจมากน้อยเพียงใดที่จะกระทำพฤติกรรมนั้น เพื่อควบคุมความเจ็บปวดในระยะที่สองของการคลอด

ถ้าท่านไม่มีความมั่นใจที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะที่สองของการคลอด ให้ทำเครื่องหมาย ✓ ใน ช่องหมายเลข 1

ถ้าท่านมีความมั่นใจเล็กน้อย ที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะที่สองของการคลอด ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 2

ถ้าท่านมีความมั่นใจปานกลาง ที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะที่สองของการคลอด ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 3

ถ้าท่านมีความมั่นใจมาก ที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะที่สองของการคลอด ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 4

ถ้าท่านมีความมั่นใจมากที่สุดที่จะสามารถกระทำพฤติกรรมเพื่อควบคุมความเจ็บปวดในระยะที่สองของการคลอด ให้ทำเครื่องหมาย ✓ ในช่องหมายเลข 5

ข้อความ	1 ไม่มีความ มั่นใจ	2 มั่นใจ เล็กน้อย	3 มั่นใจปาน กลาง	4 มั่นใจมาก	5 มั่นใจ มากที่สุด
47.การผ่อนคลายส่วนต่าง ๆ ของร่างกาย					
48.การเตรียมตัวให้พร้อมต่อการหดตัวของมดลูกในแต่ละครั้ง					
49.การใช้เทคนิคการหายใจในขณะที่มดลูกหดตัว					
50.การควบคุมตนเองในขณะที่เจ็บครรภ์					
51.การคิดถึงสิ่งที่ทำให้รู้สึกผ่อนคลาย					
52.การเพ่งจุดสนใจไปที่วัตถุหรือสิ่งของอย่างใดอย่างหนึ่งเพื่อเบี่ยงเบนความสนใจจากความเจ็บปวด					
53.การทำให้ร่างกายและจิตใจอยู่ในภาวะสงบ ไม่ตื่นเต้นตกใจ					
54.การมุ่งความสนใจอยู่ที่ทารกในครรภ์					
55.การควบคุมตนเองให้มีสติตลอดเวลาขณะมดลูกหดตัว					
56.การคิดในแง่ดีเกี่ยวกับการคลอด					
57.การไม่ให้ความสนใจหรือพยายามไม่คิดถึงความเจ็บปวด					
58.การบอกหรือเตือนตัวเองว่าฉันสามารถควบคุมความเจ็บปวดได้					
59.การคิดถึงบุคคลอื่น ๆ ในครอบครัว					
60.การเพ่งจุดสนใจที่จะผ่านพ้นระยะที่มดลูกหดตัวในแต่ละครั้ง					
61.การมุ่งความสนใจไปยังบุคคลที่มาช่วยเหลือในการคลอด					
62.การรับฟังคำให้กำลังใจจากผู้ให้ความช่วยเหลือหรือผู้ดูแล					

APPENDIX B: Consent Form (English/Thai)

Consent Form for the Control Group

IRB PROTOCOL #2006-04-2004

Title: Effects of Childbirth Preparation Classes on Self-Efficacy in Coping with Labor Pain in Thai Primiparas

Conducted By: Chularat Howharn, MS, RN, Doctoral Student

Supervisor: Sharon Dormire, PhD, RN

Of University of Texas at Austin: *Department / Office*; School of Nursing

Telephone: 512-775-2961

You are being asked to participate in a research study. Your participation is entirely voluntary. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current or future relationships with UT Austin or participating sites. To do so simply tell the researcher you wish to stop participation.

The purpose of this study is to determine the effect of a childbirth preparation class on a woman's ability to cope with pain during labor. Half of women in this study will receive usual care provided at Surin Hospital and half of the women will attend an additional series of prenatal classes. As a participant in this study, you will receive care as usual.

If you agree to be in this study, we will ask you to do the following things:

- Complete two questionnaires: 1) a general information form including your age and education and 2) a questionnaire about how you feel about childbirth. These forms will be completed when you enroll in the study.
- You will complete the "how you feel about childbirth" form again in the three weeks and one more after you delivery your baby.

Total estimated time to participate in study

- 15 minutes for completing the instruments each time (total 45 minutes)

Risks of being in the study

- There are no known risks associated with this study.

Benefits of being in the study

- Participants will assist nurses in developing ways to help women cope with labor pain which may contribute to the benefit of women in the study and all women in the future.

Compensation:

- You will receive a baby gift set worth of \$15 after completing the questionnaires.

Confidentiality and Privacy Protections:

- Confidentiality of your records will be maintained.
- Your records will be kept by a number instead of your name. You will not be identified by name in oral or written reports of the study, as only group information will be used in the reports.

- The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

The records of this study will be stored securely and kept confidential. Authorized persons from The University of Texas at Austin, members of the Institutional Review Board, have the legal right to review your research records and will protect the confidentiality of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject.

Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

Contacts and Questions:

If you have any questions about the study please ask now. If you have questions later, want additional information, or wish to withdraw your participation call the researchers conducting the study. Their names, phone numbers, and e-mail addresses are at the top of this page. If you have questions about your rights as a research participant, complaints, concerns, or questions about the research please contact Jody Jensen, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects at (512) 232-2685 or the Office of Research Support and Compliance at (512) 471-8871 or email: orsc@uts.cc.utexas.edu.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information and have sufficient information to make a decision about participating in this study. I consent to participate in the study.

Signature: _____ Date: _____

Signature of Person Obtaining Consent Date: _____

Signature of Investigator: _____ Date: _____

Consent Form for the Experimental Group

IRB PROTOCOL #2006-04-2004

Title: Effects of Childbirth Preparation Classes on Self-Efficacy in Coping with Labor Pain in Thai Primiparas

Conducted By: Chularat Howharn, MS, RN, Doctoral Student

Supervisor: Sharon Dormire, PhD, RN

Of University of Texas at Austin: *Department / Office*; School of Nursing

Telephone: 512-775-2961

You are being asked to participate in a research study. Your participation is entirely voluntary. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current or future relationships with UT Austin or participating sites. To do so simply tell the researcher you wish to stop participation.

The purpose of this study is to determine the effect of a childbirth preparation class on a woman's ability to cope with pain during labor. Half of women in this study will receive usual care provided at Surin Hospital and half of the women will attend an additional series of prenatal classes. As a participant in this study, you will attend the prenatal classes.

If you agree to be in this study, we will ask you to do the following things:

After agreeing to be in the study, you will:

- Complete two questionnaires: 1) a general information form including your age and education and 2) a questionnaire about how you feel about childbirth. These forms will be completed when you enroll in the study.
- You will also attend three childbirth preparation classes in which we will discuss pregnancy, labor and delivery, ways you can manage pain in labor, and postpartum care.
- You will complete the "how you feel about childbirth" form when the classes are completed and again after you deliver your baby.

Total estimated time to participate in study

- 15 minutes for completing the instruments each time (total 45 minutes)
- 90 minutes for each childbirth class (total time 4 hours and a half)

Risks of being in the study

- There are no known risks associated with this study.

Benefits of being in the study

- Participants will assist nurses in developing ways to help women cope with labor pain which may contribute to the benefit of women in the study and all women in the future.

Compensation:

- Each Participant will receive bath wrap after attending the first class, blanket after attending the second class, and diaper bag after attending the third class. The total amount of the items is \$30.

Confidentiality and Privacy Protections:

- Confidentiality of your records will be maintained.
- Your records will be kept by a number instead of your name. You will not be identified by name in oral or written reports of the study, as only group information will be used in the reports.
- The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

The records of this study will be stored securely and kept confidential. Authorized persons from The University of Texas at Austin, members of the Institutional Review Board, have the legal right to review your research records and will protect the confidentiality of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

Contacts and Questions:

If you have any questions about the study please ask now. If you have questions later, want additional information, or wish to withdraw your participation call the researchers conducting the study. Their names, phone numbers, and e-mail addresses are at the top of this page. If you have questions about your rights as a research participant, complaints, concerns, or questions about the research please contact Jody Jensen, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects at (512) 232-2685 or the Office of Research Support and Compliance at (512) 471-8871 or email: orsc@uts.cc.utexas.edu.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information and have sufficient information to make a decision about participating in this study. I consent to participate in the study.

Signature: _____ Date: _____

Signature of Person Obtaining Consent Date: _____

Signature of Investigator: _____ Date: _____

แบบยินยอมเข้าร่วมการวิจัยสำหรับกลุ่มควบคุม

IRB PROTOCOL # 2006-04-0004

หัวข้อ: ผลของการเตรียมคลอดต่อการรับรู้ความสามารถของตนเองในการเผชิญกับภาวะเจ็บครรภ์คลอดในหญิงตั้งครรภ์แรก

ดำเนินการวิจัยโดย: จุฬารัตน์ ห้าวหาญ, นักศึกษาระดับปริญญาเอก (Chularat Howharn, Doctoral Student)

อาจารย์ที่ปรึกษา: ดอกเตอร์แชรอน คอร์มัยร์ (Sharon Dormire, Ph.D., RN)

มหาวิทยาลัยแห่งรัฐเท็กซัส เมือง ออสติน โรงเรียนพยาบาล (University of Texas at Austin, School of Nursing) โทรศัพท์ที่ติดต่อได้: 512-775-2961 (อเมริกา) หรือ 09-213-7806 (ประเทศไทย)

ท่านได้ถูกขอความร่วมมือในการเข้าร่วมการวิจัย ซึ่งการเข้าร่วมการวิจัยเป็นไปโดยสมัครใจ เอกสารฉบับนี้เป็นเอกสารที่อธิบายถึงการวิจัยครั้งนี้ และผู้ที่ให้เอกสารกับท่านจะเป็นผู้ที่อธิบายเกี่ยวกับการวิจัยและตอบข้อสงสัยต่อท่าน ขอให้ท่านกรุณาอ่านข้อความด้านล่างนี้ให้เข้าใจและซักถามข้อสงสัยต่าง ๆ ก่อนที่ท่านจะตัดสินใจว่าจะเข้าร่วมการวิจัยครั้งนี้ ท่านสามารถจะถอนตัวจากการวิจัยครั้งนี้เมื่อใดก็ได้ตามความสมัครใจของท่าน โดยไม่มีผลเสียใด ๆ เกิดขึ้น และการถอนตัวของท่านจะไม่ส่งผลกระทบต่อมหาวิทยาลัยหรือต่อตัวผู้วิจัย

วัตถุประสงค์ของการวิจัยครั้งนี้ เพื่อทดสอบผลของการเตรียมคลอดต่อการรับรู้ความสามารถของตนเองในการเผชิญกับภาวะเจ็บครรภ์คลอด จำนวนครึ่งหนึ่งของผู้ที่เข้าร่วมในการศึกษาครั้งนี้จะได้รับการฝากครรภ์ตามปกติ และจำนวนอีกครึ่งหนึ่งจะต้องเข้านอกจากจะได้รับการฝากครรภ์ตามปกติแล้ว จะต้องเข้าร่วมฟังการบรรยายและฝึกปฏิบัติเรื่องการเตรียมตัวเพื่อคลอด ซึ่งท่านเป็นกลุ่มที่ได้รับการฝากครรภ์ปกติ

ถ้าท่านเข้าร่วมการวิจัย ท่านจะถูกขอความร่วมมือดังต่อไปนี้

ทุกท่านที่ตอบตกลงเข้าร่วมการวิจัย จะถูกขอความร่วมมือให้

- ตอบแบบสอบถามจำนวน 2 ฉบับ ซึ่งได้แก่ 1) แบบสอบถามข้อมูลส่วนบุคคล และ 2) แบบประเมินความคิด ความเชื่อ เกี่ยวกับความสามารถของตัวท่านในการเผชิญกับภาวะเจ็บครรภ์คลอด
- ตอบแบบประเมินความคิด ความเชื่อ เกี่ยวกับความสามารถของตัวท่านในการเผชิญกับภาวะเจ็บครรภ์คลอดอีกครั้งในอีก 3 สัปดาห์หน้า และอีกครั้งหลังจากท่านคลอด

ระยะเวลาที่ต้องใช้ในการเข้าร่วมวิจัยโดยประมาณ

- 15 นาทีสำหรับตอบแบบสอบถามในแต่ละครั้ง (รวมทั้งหมดประมาณ 45 นาที)
- 90 นาทีสำหรับการเตรียมคลอดในแต่ละครั้ง (รวมทั้งหมดประมาณ 4 ชั่วโมง 30 นาที)

อันตรายที่อาจเกิดขึ้นจากการวิจัยครั้งนี้

- ไม่มีอันตรายใด ๆ ที่อาจเกิดขึ้นจากการวิจัยครั้งนี้

ประโยชน์ที่จะได้รับจากการเข้าร่วมวิจัย

- ผู้เข้าร่วมวิจัยทุกท่านถือว่ามีส่วนร่วมที่สำคัญในการพัฒนาความรู้เกี่ยวกับวิธีการที่ช่วยให้หญิงตั้งครรภ์สามารถเผชิญกับการเจ็บครรภ์ในระยะคลอดได้ดีมากยิ่งขึ้น และความรู้ที่ได้จะมีประโยชน์ต่อหญิงตั้งครรภ์ท่านอื่นในอนาคตต่อไปด้วย

ค่าตอบแทนที่ท่านจะได้รับ

- ท่านจะได้รับชุดของขวัญสำหรับลูกน้อยของท่านภายหลังที่ท่านตอบแบบสอบถามครบถ้วน

การพิทักษ์สิทธิและการปกปิดข้อมูล

- ข้อมูลของท่านจะถูกปกปิดเป็นความลับ

ข้อมูลที่ได้จากการวิจัยครั้งนี้จะถูกเก็บในตู้ที่มีกุญแจล็อก ซึ่งบุคคลอื่นที่ไม่ได้รับมอบหมายจากมหาวิทยาลัย และคณะกรรมการพิทักษ์สิทธิของวิจัยมีสิทธิโดยกฎหมายที่จะเปิดดูข้อมูลได้ แต่จะต้องปกปิดข้อมูลเป็นความลับ การเผยแพร่ข้อมูลจะเป็นไปโดยภาพรวม ไม่มีการพาดพิงถึงตัวท่าน ตลอดระยะเวลาของการดำเนินการวิจัย ผู้วิจัยจะรายงานถึงการเปลี่ยนแปลงต่าง ๆ ที่อาจเกิดขึ้นและอาจส่งผลต่อการตัดสินใจที่จะเข้าร่วมการวิจัยให้ท่านทราบ

การติดต่อเมื่อท่านเกิดข้อสงสัย

ถ้าท่านมีข้อสงสัยโปรดซักถามข้อสงสัยของท่าน ณ เวลานี้ หรือถ้าท่านเกิดข้อสงสัยในภายหลัง หรือต้องการทราบข้อมูลเพิ่มเติม หรือต้องการถอนตัวออกจากการวิจัย โปรดติดต่อผู้วิจัย ซึ่งชื่อ-นามสกุลของผู้วิจัยพร้อมเบอร์โทรศัพท์ที่สามารถติดต่อได้ อยู่ที่นี่หน้าแรกของเอกสารฉบับนี้ ถ้าท่านมีข้อสงสัยเกี่ยวกับสิทธิของผู้เข้าร่วมการวิจัย หรือต้องการข้อมูลเพิ่มเติมเกี่ยวกับการวิจัย โปรดติดต่อคอกเตอร์โจดี เจนเซน (Jody Jensen, Ph.D.) ประธานคณะกรรมการทบทวนเพื่อพิทักษ์สิทธิของผู้เข้าร่วมวิจัย ที่เบอร์ (1) 512-232-2685 หรือที่

สำนักงานยินยอมและสนับสนุนการดำเนินการวิจัย ที่เบอร์ (1) 512-471-8871 หรือ email:
orisc@uts.cc.utexas.edu

ทุกท่านจะได้รับเอกสารฉบับสำเนาเพื่อเก็บไว้เป็นหลักฐาน

การยืนยันการเข้าร่วมการวิจัย:

ข้าพเจ้าได้อ่านข้อความข้างต้นและมีความรู้ความเข้าใจที่สามารถตัดสินใจเข้าร่วมการวิจัย ในครั้งนี้
จึงได้ลงชื่อไว้เป็นหลักฐานว่าข้าพเจ้ายินยอมเข้าร่วมในการวิจัย

ลายเซ็น: _____

วันที่: _____

วันที่: _____

ลายเซ็นของบุคคลที่มอบแบบยินยอมการเข้าร่วมวิจัย

ลายเซ็นของผู้วิจัย: _____

วันที่: _____

แบบยินยอมเข้าร่วมการวิจัยสำหรับกลุ่มทดลอง

IRB PROTOCOL # 2006-04-0004

หัวข้อ: ผลของการเตรียมคลอดต่อการรับรู้ความสามารถของตนเองในการเผชิญกับภาวะเจ็บครรภ์คลอดในหญิงตั้งครรภ์แรก

ดำเนินการวิจัยโดย: จุฬารัตน์ ห้าวหาญ, นักศึกษาระดับปริญญาเอก (Chularat Howharn, Doctoral Student)

อาจารย์ที่ปรึกษา: ดอกเตอร์เชรอน คอร์มัยร์ (Sharon Dormire, Ph.D., RN)

มหาวิทยาลัยแห่งรัฐเท็กซัส เมือง ออสติน โรงเรียนพยาบาล (University of Texas at Austin, School of Nursing) โทรศัพท์ที่ติดต่อได้: 512-775-2961 (อเมริกา) หรือ 09-213-7806 (ประเทศไทย)

ท่านได้ถูกขอความร่วมมือในการเข้าร่วมการวิจัย ซึ่งการเข้าร่วมการวิจัยเป็นไปโดยสมัครใจ เอกสารฉบับนี้เป็นเอกสารที่อธิบายถึงการวิจัยครั้งนี้ และผู้ที่ให้เอกสารกับท่านจะเป็นผู้ที่อธิบายเกี่ยวกับการวิจัยและตอบข้อสงสัยต่อท่าน ขอให้ท่านกรุณาอ่านข้อความด้านล่างนี้ให้เข้าใจและซักถามข้อสงสัยต่าง ๆ ก่อนที่ท่านจะตัดสินใจว่าจะเข้าร่วมการวิจัยครั้งนี้ ท่านสามารถจะถอนตัวจากการวิจัยครั้งนี้เมื่อใดก็ได้ตามความสมัครใจของท่าน โดยไม่มีผลเสียใด ๆ เกิดขึ้น และการถอนตัวของท่านจะไม่ส่งผลกระทบต่อมหาวิทยาลัยหรือต่อตัวผู้วิจัย

วัตถุประสงค์ของการวิจัยครั้งนี้ เพื่อทดสอบผลของการเตรียมคลอดต่อการรับรู้ความสามารถของตนเองในการเผชิญกับภาวะเจ็บครรภ์คลอด จำนวนครึ่งหนึ่งของผู้ที่เข้าร่วมในการศึกษาครั้งนี้จะได้รับการฝากครรภ์ตามปกติ และจำนวนอีกครึ่งหนึ่งจะต้องเข้านอกจากจะได้รับการฝากครรภ์ตามปกติแล้ว จะต้องเข้าร่วมฟังการบรรยายและฝึกปฏิบัติเรื่องการเตรียมตัวเพื่อคลอด ซึ่งท่านเป็นกลุ่มที่จะต้องเข้าร่วมฟังการบรรยายและฝึกปฏิบัติเรื่องการเตรียมตัวเพื่อคลอด

ถ้าท่านเข้าร่วมการวิจัย ท่านจะถูกขอความร่วมมือดังต่อไปนี้

ทุกท่านที่ตอบตกลงเข้าร่วมการวิจัย จะถูกขอความร่วมมือให้

- ตอบแบบสอบถามจำนวน 3 ฉบับ ซึ่งได้แก่ 1) แบบสอบถามข้อมูลส่วนบุคคล, 2) แบบประเมินความคิด ความเชื่อ เกี่ยวกับความสามารถของตัวท่านในการเผชิญกับภาวะเจ็บครรภ์คลอด และ 3) แบบสอบถามความคิดเห็นต่อการเตรียมตัวคลอดที่ท่านได้รับในครั้งนี้
- เข้าร่วมฟังการบรรยายและแสดงความคิดเห็นในเรื่องการเตรียมคลอด สัปดาห์ละ 1 ครั้ง ติดต่อกันทั้งหมด 3 สัปดาห์ ซึ่งท่านจะได้รับความรู้เกี่ยวกับการตั้งครรภ์ การคลอด วิธีการเผชิญกับการเจ็บครรภ์คลอด และการดูแลหลังคลอด

- ตอบแบบประเมินความคิด ความเชื่อ เกี่ยวกับความสามารถของท่านในการเผชิญกับภาวะเจ็บครรภ์คลอดอีกครั้งภายหลังเสร็จสิ้นการรับฟังการบรรยายในเรื่องการเตรียมคลอด และอีกครั้งภายหลังจากท่านคลอด

ระยะเวลาที่ต้องใช้ในการเข้าร่วมวิจัยโดยประมาณ

- 15 นาทีสำหรับตอบแบบสอบถามในแต่ละครั้ง (รวมทั้งหมดประมาณ 45 นาที)
- 90 นาทีสำหรับการเตรียมคลอดในแต่ละครั้ง (รวมทั้งหมดประมาณ 4 ชั่วโมง 30 นาที)

อันตรายที่อาจเกิดขึ้นจากการวิจัยครั้งนี้

- ไม่มีอันตรายใด ๆ ที่อาจเกิดขึ้นจากการวิจัยครั้งนี้

ประโยชน์ที่จะได้รับการเข้าร่วมวิจัย

- ผู้เข้าร่วมวิจัยทุกท่านถือว่ามีส่วนร่วมที่สำคัญในการพัฒนาความรู้เกี่ยวกับวิธีการที่ช่วยให้หญิงตั้งครรภ์สามารถเผชิญกับการเจ็บครรภ์ในระยะคลอดได้ดีมากยิ่งขึ้น และความรู้ที่ได้จะมีประโยชน์ต่อหญิงตั้งครรภ์ท่านอื่นในอนาคตต่อไปด้วย

ค่าตอบแทนที่ท่านจะได้รับ

- ท่านจะได้รับของขวัญสำหรับลูกน้อยของท่านภายหลังเสร็จสิ้นการเข้ารับฟังการบรรยายเพื่อการเตรียมคลอดแต่ละครั้ง

การพิทักษ์สิทธิและการปกปิดข้อมูล

- ข้อมูลของท่านจะถูกปกปิดเป็นความลับ

ข้อมูลที่ได้จากการวิจัยครั้งนี้จะถูกเก็บในตู้ที่มีกุญแจล็อก ซึ่งบุคคลอื่นที่ได้รับมอบหมายจากมหาวิทยาลัย และคณะกรรมการพิทักษ์สิทธิของวิจัยมีสิทธิโดยกฎหมายที่จะเปิดดูข้อมูลได้ แต่จะต้องปกปิดข้อมูลเป็นความลับ การเผยแพร่ข้อมูลจะเป็นไปโดยภาพรวม ไม่มีการพาดพิงถึงตัวตน ตลอดระยะเวลาของการดำเนินการวิจัย ผู้วิจัยจะรายงานถึงการเปลี่ยนแปลงต่าง ๆ ที่อาจเกิดขึ้นและอาจส่งผลต่อการตัดสินใจที่จะเข้าร่วมการวิจัยให้ท่านทราบ

การติดต่อเมื่อท่านเกิดข้อสงสัย

ถ้าท่านมีข้อสงสัยโปรดซักถามข้อสงสัยของท่าน ณ เวลานี้ หรือถ้าท่านเกิดข้อสงสัยในภายหลัง หรือต้องการทราบข้อมูลเพิ่มเติม หรือต้องการถอนตัวออกจากการวิจัย โปรดติดต่อผู้วิจัย ซึ่งชื่อ-นามสกุลของผู้วิจัย พร้อมเบอร์โทรศัพท์ที่สามารถติดต่อได้ อยู่ที่หน้าแรกของเอกสารฉบับนี้ ถ้าท่านมีข้อสงสัยเกี่ยวกับสิทธิของผู้เข้าร่วมการวิจัย หรือต้องการข้อมูลเพิ่มเติมเกี่ยวกับการวิจัย โปรดติดต่อคอกเตอร์ โจดี เจนเซน (Jody Jensen, Ph.D.) ประธานคณะกรรมการทบทวนเพื่อพิทักษ์สิทธิของผู้เข้าร่วมวิจัย ที่เบอร์ (1) 512-232-2685 หรือที่สำนักงานยินยอมและสนับสนุนการวิจัย ที่เบอร์ (1) 512-471-8871 หรือ email: orsc@uts.cc.utexas.edu

ทุกท่านจะได้รับเอกสารฉบับสำเนาเพื่อเก็บไว้เป็นหลักฐาน

การยืนยันการเข้าร่วมการวิจัย:

ข้าพเจ้าได้อ่านข้อความข้างต้นและมีความรู้ความเข้าใจที่สามารถตัดสินใจเข้าร่วมการวิจัย ในครั้งนี้ จึงได้ลงชื่อไว้เป็นหลักฐานว่าข้าพเจ้ายินยอมเข้าร่วมในการวิจัย

ลายเซ็น: _____

วันที่: _____

วันที่: _____

ลายเซ็นของบุคคลที่มอบแบบยินยอมการเข้าร่วมวิจัย

ลายเซ็นของผู้วิจัย: _____

วันที่: _____

APPENDIX C: Permission Letters

Permission Letter for the Pilot Study

University of Texas at Austin, School of Nursing

1700 Red River

Austin, Texas 78701

USA

569
24 JUN 19
9.00

9 กุมภาพันธ์ 2549

โรงพยาบาลสุรินทร์
รับเลขที่ 1764
วันที่ 28 กพ 49
เวลา 09.06 น.

เรื่อง ขออนุญาตทำการเก็บข้อมูลในหญิงตั้งครรภ์ที่แยกฝากครรภ์ โรงพยาบาลสุรินทร์

เรียน ผู้อำนวยการโรงพยาบาลสุรินทร์

ดิฉัน นางจุฬารัตน์ ทั่วทาญ ตำแหน่ง พยาบาลวิชาชีพ ปฏิบัติงาน ณ วิทยาลัยพยาบาลบรมราชชนนี สุรินทร์ ขณะนี้อยู่ระหว่างการศึกษาระดับปริญญา เอก ณ University of Texas at Austin School of Nursing ดิฉันกำลังทำการศึกษาวิจัยนําร่อง เรื่อง “ผลการจัดโปรแกรมการเตรียมคลอดต่อการรับรู้สมรรถนะของตนเองต่อการเผชิญความเจ็บปวดในระยะคลอด” ซึ่งได้รับการยินยอมจากคณะกรรมการพิจารณาวิทยานิพนธ์ของทางมหาวิทยาลัยแล้ว ดังนั้นดิฉันจึงใคร่ขออนุญาตทำการเก็บข้อมูล ณ แผนกฝากครรภ์ และแผนกหลังคลอด โรงพยาบาลสุรินทร์ ตั้งแต่ 15 มิถุนายน 2549 ถึง 15 สิงหาคม 2549 หญิงตั้งครรภ์ที่ใช้ในการศึกษาวิจัยครั้งนี้จะถูกแบ่งเป็น 2 กลุ่ม คือ กลุ่มควบคุมที่ได้รับการฝากครรภ์ตามปกติ และกลุ่มทดลองที่จะต้องเข้าร่วมในโปรแกรมการเตรียมคลอด จำนวน 4 ครั้ง ในระยะเวลา 4 สัปดาห์ การเก็บข้อมูลนี้จะใช้วิธีให้หญิงตั้งครรภ์ตอบแบบสอบถามจำนวน 2 ฉบับ คือ แบบบันทึกข้อมูลส่วนบุคคล และแบบวัดการรับรู้สมรรถนะของตนเองต่อการเผชิญความเจ็บปวดในระยะคลอด และหญิงตั้งครรภ์ในกลุ่มทดลองจะเข้าโปรแกรมการเตรียมคลอดจำนวน 4 ครั้ง ในระยะเวลา 4 สัปดาห์ ซึ่งจะไม่ก่อให้เกิดอันตรายใด ๆ แก่สตรีทั้งในระยะก่อนคลอดระยะคลอด และ ภายหลังคลอด พร้อมนี้จะไม่เป็นอุปสรรคต่อการปฏิบัติงานของเจ้าหน้าที่ประจำแผนกฝากครรภ์และแผนกหลังคลอดแต่อย่างใด อนึ่งข้อมูลที่ได้นี้จะนำไปใช้ให้เป็นประโยชน์ต่อการพยาบาลหญิงตั้งครรภ์ต่อไป

จึงเรียนมาเพื่อโปรดทราบและพิจารณาอนุญาต จักเป็นพระคุณยิ่ง

เรียน ผู้อำนวยการโรงพยาบาลสุรินทร์
12 เพื่อโปรดพิจารณา/เห็นชอบ
3. ศึกษารายละเอียด () ศึกษารายละเอียด () ศึกษารายละเอียด ()
4. ศึกษารายละเอียด () ศึกษารายละเอียด () ศึกษารายละเอียด ()
5. ศึกษารายละเอียด () ศึกษารายละเอียด () ศึกษารายละเอียด ()

(จุฬารัตน์ ทั่วทาญ)

62
23mrgg

กลุ่มงานป้องกันและควบคุมโรค
ก. พยาบาล, OPD, 49
6 09/04/49

English Translation for the Permission Letter

University of Texas at Austin, School of Nursing
1700 Red River
Austin, Texas 78701
USA

February 9 , 2006

Ref: Request for permission to collect data in Ante Natal Clinic, Postpartum Unit,
Obstetric and Gynecologic Department

To: Director
Surin Hospital
Maung Surin, Surin, 32000
Thailand

I have been a nursing instructor at Boromrajonani College of Nursing and now I am a doctoral student at the University of Texas at Austin School of Nursing. I am doing a pilot study title “Effect of Childbirth Preparation Classes on Self-efficacy in Coping with Labor Pain”. This study has been approved by my doctoral studies committee. I would like to ask for a permission to collect data at Ante Natal Clinic and Postpartum Unit of your hospital from June 15, 2006 – August 15, 2006. My study will include two groups of pregnant women, one receiving standard care and one attending the prenatal class I will teach. All participants will complete two questionnaires which are a demographic form and childbirth self-efficacy inventory before they attend childbirth preparation classes. The experimental group will attend childbirth preparation classes for four sessions over the four periods. Then, participant will complete childbirth self-efficacy inventory after finish childbirth preparation classes and within 24-48 hours after delivery. There are no risks to the mother and their unborn infants. Data collection will not interfere with the routine activities of the Ante Natal Clinic and Postpartum Unit staffs. Findings from this study regarding the effects of childbirth preparation classes which based on evidence-based intervention will provide nurses or health care providers with another choice in providing the proper antenatal care for pregnant women.

Best regards,



(Chularat Howharn)

Permission Letter for the Main Study

กลุ่มงานพัฒนาระบบบริการสุขภาพ
 เลขที่รับ..... 2582
 วันที่ 25 / 09.0 / 49
 เวลา 16.00 น.

16703
 258240
 25/09/2549

University of Texas at Austin, School of Nursing
 1700 Red River Austin, Texas 78701, USA

23 ตุลาคม 2549

เรื่อง ขออนุญาตทำการเก็บข้อมูลในหญิงตั้งครรภ์ที่แผนกฝากครรภ์ โรงพยาบาลสุรินทร์

เรียน ผู้อำนวยการ โรงพยาบาลสุรินทร์

ดิฉัน นางจุฬารัตน์ ห้าวหาญ ตำแหน่ง พยาบาลวิชาชีพ ปฏิบัติงาน ณ วิทยาลัยพยาบาลบรมราชชนนีสุนทรินทร์ ขณะนี้อยู่ระหว่างการศึกษาระดับปริญญาเอก ณ University of Texas at Austin School of Nursing ดิฉันกำลังทำการศึกษาวิจัย เรื่อง “ผลการจัดโปรแกรมการเตรียมคลอดต่อการรับรู้สมรรถนะของตนเองต่อการเผชิญความเจ็บปวดในระยะคลอดของหญิงตั้งครรภ์แรก” ซึ่งได้รับการยินยอมจากคณะกรรมการพิจารณาวิทยานิพนธ์ของทางมหาวิทยาลัยแล้ว ดังนั้นดิฉันจึงใคร่ขออนุญาตทำการเก็บข้อมูล ณ แผนกฝากครรภ์ และแผนกหลังคลอด โรงพยาบาลสุรินทร์ ตั้งแต่ 1 มีนาคม 2550 ถึง 31 สิงหาคม 2550 หญิงตั้งครรภ์ที่ใช้ในการศึกษาวิจัยครั้งนี้จะถูกแบ่งเป็น 2 กลุ่ม คือ กลุ่มควบคุมที่ได้รับการฝากครรภ์ตามปกติ และ กลุ่มทดลองที่จะต้องเข้าร่วมในโปรแกรมการเตรียมคลอด จำนวน 3 ครั้ง ในระยะเวลา 3 สัปดาห์ การเก็บข้อมูลนี้จะใช้วิธีให้หญิงตั้งครรภ์ตอบแบบสอบถามจำนวน 2 ฉบับ คือ แบบบันทึกข้อมูลส่วนบุคคล และแบบวัดการรับรู้สมรรถนะของตนเองต่อการเผชิญความเจ็บปวดในระยะคลอด และหญิงตั้งครรภ์ในกลุ่มทดลองจะเข้าโปรแกรมการเตรียมคลอดจำนวน 4 ครั้ง ในระยะเวลา 4 สัปดาห์ ซึ่งจะไม่ก่อให้เกิดอันตรายใด ๆ แก่สตรีทั้งในระยะตั้งครรภ์และระยะคลอด และทารกในครรภ์ พร้อมทั้งไม่เป็นอุปสรรคต่อการปฏิบัติงานของเจ้าหน้าที่ประจำแผนกฝากครรภ์ และแผนกหลังคลอดแต่อย่างใด อนึ่งข้อมูลที่ได้นี้จะนำไปใช้ให้เป็นประโยชน์ต่อการพยาบาลหญิงตั้งครรภ์ต่อไป

จึงเรียนมาเพื่อโปรดทราบและพิจารณาอนุญาต จักเป็นพระคุณยิ่ง

เรียน ผู้อำนวยการ โรงพยาบาลสุรินทร์

✓ ยินยอมพิจารณา/เห็นชอบ

☒ ค.พ.บ.ค. ☐ กิ่งแผนก ☐ กิ่งสวัสดิการ
☐ ค.พ.อ. ☐ ฝ่ายการเงิน ☐ ค.เภสัช

(จุฬารัตน์ ห้าวหาญ)

20 ต.ค. 2549
 20 ต.ค. 2549

OPD / 6
 26.10.49

English Translation of the Permission Letter

University of Texas at Austin, School of Nursing
1700 Red River
Austin, Texas 78701
USA

23 October, 2006

Ref: Request for permission to collect data in Ante Natal Clinic, Postpartum Unit,
Obstetric and Gynecologic Department

To: Director
Surin Hospital
Maung Surin, Surin, 32000
Thailand

I have been a nursing instructor at Boromrajonani College of Nursing and now I am a doctoral student at the University of Texas at Austin School of Nursing. I am doing a research title “Effect of Childbirth Preparation Classes on Self-efficacy in Coping with Labor Pain”. This study has been approved by my doctoral studies committee. I would like to ask for a permission to collect data at Ante Natal Clinic and Postpartum Unit of your hospital from March 1, 2007 – August 31, 2007. My study will include two groups of pregnant women, one receiving standard care and one attending the prenatal class I will teach. All participants will complete two questionnaires which are a demographic form and childbirth self-efficacy inventory before they attend childbirth preparation classes. The experimental group will attend childbirth preparation classes for three sessions over the three periods. Then, participant will complete childbirth self-efficacy inventory after finish childbirth preparation classes and within 24-48 hours after delivery. There are no risks to the mother and their unborn infants. Data collection will not interfere with the routine activities of the Ante Natal Clinic and Postpartum Unit staffs. Findings from this study regarding the effects of childbirth preparation classes which based on evidence-based intervention will provide nurses or health care providers with another choice in providing the proper antenatal care for pregnant women.

Best regards,



(Chularat Howharn)

APPENDIX D: Childbirth Preparation Class Curriculum

Childbirth Preparation Class Curriculum

Developed by Chularat Howharn

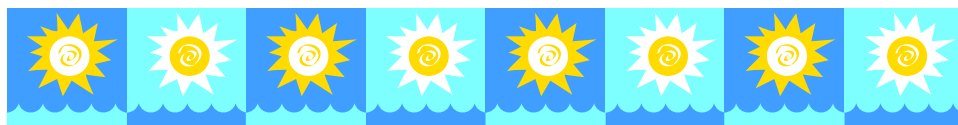
Outline	Supplies	Technique	Lecture Content	Source of Self-efficacy
Class 1: (Pregnancy and Overview of Labor and Delivery) 1.Introduction and Brief Overview 2. Introduction to Birth Plan 3. Anatomy and Physiology 4. Premonitory signs of labor 5.True and False Labor Pain 6.What to Bring to the Hospital 7. Overview of Stages and Phases of Labor Time: 90 minutes	1.Roster 2.Posters: -Anatomy and Physiology -Birth atlas flip chart -Cervical dilatation model 3.Models: -Vinyl pelvic model set 4. Childbirth preparation handbook 5.Transparencies/ Slides	1. Icebreaker activity 2. Explain the purpose of this program and childbirth preparation handbook 3.Encourage participants to express their feeling about labor and delivery to the group 3. Lecture by utilizing posters and models	1.Introduce the researcher -credentials, experience, personal 2.Expectations -restrooms, emergency exits 3.Icebreaker activity 4.Rationale for Prepared Childbirth 5.Introduction to Birth Plan 6.Anatomy and Physiology -uterus/fundus/cervix -placenta and cord -birth canal -amniotic sac and fluid -mucus plug -ligaments -pelvis -perineum -breast 7.Body Mechanics 8.Quickening and fetal movement count 9.Premonitory signs of labor -Lightening -False labor pain -Ripening and effacement of cervix -Mucous show -Spontaneous rupture of membrane -Weight loss and gastrointestinal upset 10.True and False Labor Pain	Physiologic and emotional states

Outline	Supplies	Technique	Lecture Content	Source of Self-efficacy
Class 1: continued			11.What to Bring to the Hospital 12.Overview of Labor and Delivery -Meaning of labor -Stages of labor -Power -Passages -Passengers -Psychosocial conditions -Lie -Attitude -Presentation -Station -Cervical dilatation and effacement -Physical and emotional changes during labor and delivery	
Class 2: (Coping with Labor Pain) 1.Nature of labor pain 2.Medications Used in Labor 3.Non-medical coping with labor pain 4.Practicing Time: 90 minutes	1.Posters 2.Models: -Vinyl pelvic model set -Cervical dilatation model 3. Birth atlas flip chart 4.Childbirth preparation handbook 5. Transparencies	1.Review content from class one 2.Discuss about any problem encountered 3.Lecture by utilizing posters and models 4.Demonstration non-medical coping with labor pain/Return	1.Brief review the content of class 1 and ask for the question and discuss the answer if they have 2.Assist participant to recounts previous pain experience such as dysmenorrheal and strategies that they have been used 3. Medications Used in Labor -Analgesia and Anesthesia 4.Active Relaxation Technique 5.Non-medical coping with labor pain -Distraction -Breathing Technique -Touch and Touch Relaxation -Abdominal effleurage	Mastery experience

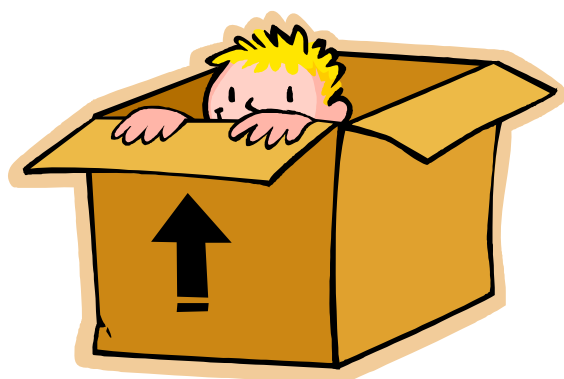
Outline	Supplies	Technique	Lecture Content	Source of Self-efficacy
Class 2: continued			<ul style="list-style-type: none"> -Massage 6. Practicing non-medical coping with labor pain and give them a support and compliment 7. Role-play 8. Visit labor and delivery unit 	vicarious experience and physiological and emotional states
Class 3: (Delivery and postpartum) 1. Labor Variations 2. Delivery variations 3. Postpartum 4. Your Newborn 5. Evaluation Time: 90 minutes	1. Posters: -Birth atlas flip chart 2. Models: -Vinyl pelvic model set -Fetal doll -Cervical dilatation model 3. Childbirth preparation handbook 4. Transparencies/ Slides	1. Review content from class one 2. Discuss about any problem encountered 3. Lecture by utilizing posters and models	1. Brief review the content of class 1-2 and ask for the question and discuss the answer if they have 2. Demonstrate all technique from class 3, the researcher will give them a support and compliment for the demonstrate 3. Labor variations -prolonged labor -Retained of placenta 4. Delivery variations -Episiotomy -Forceps -Vacuum extractor -C-section 5. Mother's Postpartum care in hospital -rooming in -pain and afterbirth contractions -lochia -urination 6. Hospital routines -Vitamin K and eye drops at delivery -Immunizations	Physiologic and emotional states vicarious experience and physiological & emotional states

Outline	Supplies	Technique	Lecture Content	Source of Self-efficacy
Class 3: Continued			-Newborn metabolic screen -Birth certificates -Bathing the newborn 7.Breastfeeding 8.Review and conclude breathing technique 9.Evaluation class	

APPENDIX E: Childbirth Preparation Class Handbook



Childbirth Preparation Handbook



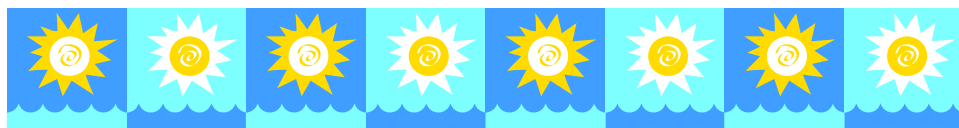
By

Chularat Howharn

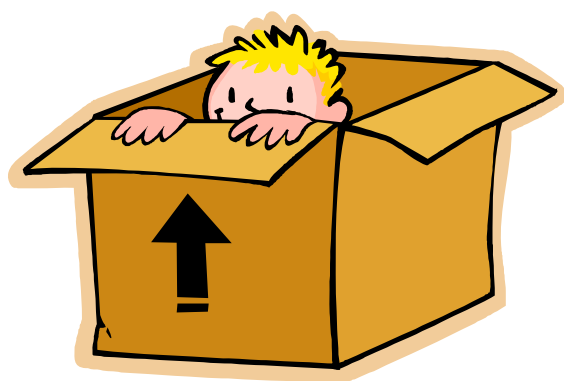
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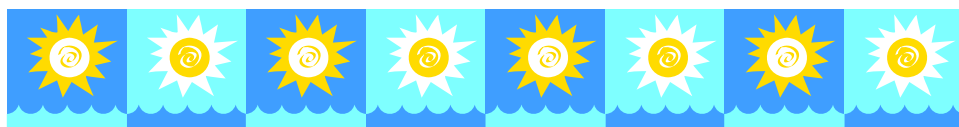
คู่มือการเตรียมตัวเพื่อการคลอดสำหรับคุณแม่ครรภ์แรก



โดย

จุฬารัตน์ ห้าวหาญ

๒๕๕๐



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APPENDIX F: Thai Government Issued Antenatal Health Book

คำแนะนำที่ต้องปฏิบัติ

หนังสือรับรองการเกิด(ท.ร. 1/1) ซึ่งผู้ทำคลอดได้ลงชื่อรับรองไว้แล้วในสมุดบันทึกสุขภาพแม่และเด็กเล่มนี้มิใช่สูติบัตรหรือใบแจ้งเกิด บิดาหรือมารดาของเด็กจะต้องติดต่อนายทะเบียนอำเภอหรือนายทะเบียนท้องถิ่น ณ อำเภอ กิ่งอำเภอ เทศบาล เมืองพัทยา หรือเขตต่างๆ ในกทม. ซึ่งเป็นท้องที่มีเด็กเกิด เพื่อแจ้งการเกิดของเด็ก ออกสูติบัตรและเพิ่มชื่อในทะเบียนบ้าน ภายใน 15 วัน นับแต่วันที่เด็กเกิด โดยนำสมุดบันทึกสุขภาพแม่และเด็กเล่มนี้ พร้อมสำเนา ทะเบียนบ้านฉบับเจ้าบ้านและบัตรประจำตัวประชาชนของบิดาหรือมารดาของเด็กไปด้วย หากเกินกำหนดนี้จะมีผลผิดตามกฎหมายว่าด้วยการทะเบียนราษฎร ต้องระวางโทษปรับไม่เกิน 1,000 บาท

เอกสารที่ควรเตรียมไปใช้ในการแจ้งเกิดเด็ก

1. สำเนาทะเบียนบ้าน(ฉบับเจ้าบ้าน)
2. บัตรประจำตัวประชาชนของแม่และพ่อ
3. ใบสำคัญการสมรส (ถ้ามี)



ข้อคิดเพื่อสุขภาพจิตของลูก



ลูกแข็งแรงอารมณ์ดีและมีความสุข
ความสมบูรณ์ทั้งกายและใจของแม่

เกิดจากแม่ที่สมบูรณ์ทั้งกายและใจ
จะมีได้ด้วยการดูแลเอาใจใส่ที่ดีจากพ่อ



สมุดบันทึกสุขภาพ แม่และเด็ก



โปรดอย่าทำหาย

นำติดตัวมาด้วยทุกครั้งที่เราใช้บริการ
ในสถานพยาบาลของรัฐบาลและเอกชน
สามารถใช้เป็นเอกสารประกอบการแจ้งเกิด เพื่อออกสูติบัตรและเพิ่มชื่อในทะเบียนบ้าน
กระทรวงสาธารณสุข 2545

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