

# CHAPTER 1

## INTRODUCTION

The first chapter describes the background and significance of the research problem, objectives of the study, research questions, and operational definitions.

### **Background and Significance of the Research Problem**

Over the last 25 years, cesarean section has been an increasingly common method of delivery (Sachs, 2001). This is a global epidemic with the highest rate in South America, led by Chile with the national rate of 40% in 1997 (Murray, 2000), and Brazil with the rate of 40% in 2000 (Jordan, 2001). Cesarean section rates in the United States, Canada, Italy, and the United Kingdom were all about 20% in 2000 (Johnson, Newburn & Macfarlane, 2002). Cesarean section rates in Thailand have risen from 15% in 1990 to 22% in 1996 (Tangcharoensathein et al., 1998). The recent national survey in Thailand by Chanrachakul, Herabutya, and Udomsubpayakul (2000) shows the increased cesarean section rates in the past 5 years: 78% in general hospitals, 66% in university hospitals, and 50% in private hospitals. Previous cesarean section was the most common indication in university hospitals (88%) and private hospitals (63%) while failure of labor progress was the most common indication in general hospitals (55%). In spite of that rapid rise of cesarean section and although perceptions are a potentially important avenue for developing strategies for reducing cesarean section rates, perceptions related to cesarean section have been rarely

studied. The existing research in the obstetric area on perceptions focuses primarily on perceived health risk behavior, e.g., smoking, control of physical hazards through activities such as exercise; and control diseases such as cholesterol and diabetes (Nirattharadorn, 1996; Oopasiriwit, 1988; Tungcharoen, 1991). Previous studies of cesarean section focused primarily on the actual, rather than perceived, benefits and risks of cesarean section (Shearer, 1993).

The most common medical indications for cesarean delivery are dystocia, previous cesarean section, breech presentation, and fetal distress (Poma, 1999; Soliman & Burrow, 1993). In general, the basic aim of cesarean delivery is to preserve the life or health of the mother and her fetus and may be the best choice of birth when there is evidence of maternal or fetal complications (Lowdermilk, Perry & Bobak, 2000). However, there is no evidence that a higher cesarean rate is associated with better maternal and perinatal outcomes (Poma, 2000). This operation may benefit maternal and neonatal outcomes only in true obstetric emergency situations (Sakala, 1993). In recent decades, several authors have stated that a large number of cesarean sections are performed in the absence of traditional medical indications (Belizan, Althabe, Barros & Alexander, 1999; Murray & Serani-Pradenas, 1997; Sakala, 1993; Wolfe, 1994). Consequently, many mothers and infants are put into a position of disadvantage due to physical and psychological complications and medical costs of an unnecessary cesarean section.

The incidence of physical complications, including maternal mortality, due to cesarean section is two to four times higher than that for a vaginal birth (Francome & Sarvage, 1993). Shearer (1993) has concluded from the existing studies that maternal morbidity occurs 5 to 10 times more often in cesarean deliveries than in normal births.

The most common maternal complications of cesarean section are infection, hemorrhage, injury to the mother, and side effects of anesthesia. Infection in the uterus is about four times higher than that of with vaginal delivery (Beattie et al., 2001; Howie & Davey, 1990; Shearer, 1993) and the rate of urinary tract infection is higher than with vaginal birth, having been reported at 11% (Buchholz & Dary, 1994). The average blood loss is about twice as much with cesarean birth as with vaginal birth (Shearer, 1993). Complications are also found in infants born by cesarean section. Approximately 6 to 15% of elective cesarean infants develop respiratory distress syndrome and 0.4% suffer from birth injuries, such as accidental lacerations (Shearer, 1993).

For psychological complications, cesarean mothers tend to experience loss of control over bodily function, loss of control over the birthing process, loss of self-esteem, and role conflict (Mutryn, 1993). Raphael-Leff (1991) has suggested that the incidence of child abuse in children born by cesarean section is 10 times higher than that by vaginal birth. One possible factor related to the increased incidence of child abuse is the poor quality of interaction between the mother and her infant during the initial postpartum period due to physical pain and discomfort, complications of surgery and/ or effects of anesthesia, and delayed bonding onset with a cesarean birth. These consequences of cesarean section may also interfere with the initial relationships between fathers and infants. In addition, the cesarean fathers may experience emotional repercussions such as a sense of isolation, inadequacy, dissatisfaction, stress, loss, grief, anxiety, fear, worry, and role failure (Mutryn, 1993).

Sakala (1993) has stated that in the United States, the average physician and hospital costs of cesarean section in 1989 were 66% higher than those for vaginal

delivery. Belizan, Althabe, Barros, and Alexander (1999) in studies in 18 Latin American countries found that there was a strongly association between the proportion of cesarean sections and the gross national product per capita ( $r = 0.746$ ,  $n = 18$ ,  $p < .0001$ ), the number of doctors per 10,000 population, the proportion of urban population, and the proportion of institutional deliveries. In addition to national economics, cesarean section costs affect individual women because their money is spent needlessly on the operation.

Because of the substantially increased disadvantages of cesarean section for individual mothers and infants, as well as the national economic impacts mentioned above, the World Health Organization (WHO) has stated that no region in the world is justified in having a cesarean rate greater than 10-15% (WHO, 1997). The National Institutes of Health of the United States has declared that by the year 2001 the cesarean rates should not be more than 15% (National Center for Health Statistics, 2000). In Thailand, from the national study mentioned above, 38% of the hospitals had policies to minimize cesarean sections (Chanrachakul, Herabutya & Udomsubpayakul, 2000). However, cesarean section rates are higher than 15%, the rate recommended by WHO, and are still rising. A review of the literature suggests that the reasons for increasing cesarean section rates are complex and reflect a combination of changes that occurred during the past twenty-five years (Sachs, 2001). Pregnancy is not an illness. Most women do not need medical or surgical treatment during pregnancy, delivery and puerperium. Vaginal birth is the normal consequence of being pregnant, a state for which the women and her sexual partner must take responsibility, not the medical profession (Wagner, 1995).

Childbirth is in part a physiologic process in which (assuming a vaginal delivery) the uterus contracts, the cervix softens and opens, the fetus descends through the pelvis, and the mother pushes her baby out into the world (Nichols & Humenick, 2000). The childbirth experience is consistently described in the literature as a significant event of great psychological importance in a woman's life (Nichols, 1996; Shereshefsky, 1973). It forever shapes a woman's thoughts of herself and has far reaching potential for affecting the mental and social health of women and family members (Mercer, 1985; Nichols, 1996). The experience of childbirth is powerfully and deeply felt by women, and their feelings and memories related to the experience are long lasting (Simkin, 1996, 1991). From a research perspective and mass media, viewing childbirth as a crisis is problematic (Nichols & Humenick, 2000). Thus by choosing a cesarean section is sometimes seen as a means of avoiding the pain of childbirth due to incomplete information or misinformation (Wagner, 1995).

A large number of factors have been hypothesized to contribute to the increased cesarean section rates including the increased safety of the surgical procedures, the increased proportion of care provided by obstetricians, higher physician reimbursement for cesarean deliveries, medico-legal concerns, and maternal and infant risk factors. The persistent high cesarean delivery rate has been of concern to both the medical and lay communities (Berga, 1997).

Many clinicians and health policy advocates have suggested that some cesarean deliveries are unnecessary or are performed without medical indications (Burns, Geller & Wholey, 1995; Gregory, Korst & Platt, 2001; Ryding, 1993; Sakala, 1993; Sanchez-Ramos, Moorhead & Kaunitz, 1994). Some researchers have reported that women request cesarean section delivery, which is thought to partly account for

high cesarean section rates (Graham et al., 1999; Jackson & Irvine, 1998; Mould, Chong, Spencer & Gallivan, 1996; Wilkinson, Mellwaine, Boulton-Jones & Cole, 1998). The research papers revealed that reasons for women's preference for cesarean section include fear of vaginal childbirth, avoidance of stretching of vaginal tissues, selecting a lucky day as the date of birth, having a "high-class" delivery, and safety for themselves or their babies (Gamble, Health & Creedy, 2000; Lee, Holroyd & Yuen Ng, 2001). Al-Mufti, McCarthy and Fisk (1996) conducted a survey of 282 obstetric consultants and senior registrars in National Health Service Obstetric Units in London asking about the method of delivery they would choose for themselves or their spouses. It was found that 17% preferred elective cesarean section to vaginal birth with the reasons being fear of perineum damage from vaginal delivery, fear of long-term effects such as stress, incontinence and anal sphincter damage, and fear of damage to the baby. In addition to the women's requests, some cesarean sections are performed by physician without full participation in the decision-making process by the woman (Erb, Hill & Houston, 1983; Shiono, McNellis & Rhoads, 1987).

Whether the decision involves the method of childbirth or other areas related to daily life, a decision is a choice between two or more alternatives (King, Lembke & Smith, 2001). The decision making process begins with the recognition of the issues involved. It then continues with the specification of the problems, the setting of goals, gathering information, consideration of possible solutions, making a decision, implementation of the chosen solution, and, finally, assessment of the results (WHO, 1990). A simple schematic model of decision-making would describe it in terms of three interacting components, namely: a) the decision-maker, b) the task, and c) the decision context or situation (Hunt et al., 1989). Regardless of the complexity, all

decisions require that some kind of information should be used in making appropriate choices.

Many pregnant women no longer view pregnancy as simply a series of biological events that inevitably occur, but rather as a series of events in which they can be active participants (Cahill, 1996; Charles, Gaffin & Whelan, 1999). Decision making is an integral part of all activities of pregnant women. Many decisions can be made easily with minimal deliberation, but pregnant women often have to make difficult decisions during all stages of labor and delivery. One of the most difficult decisions made by pregnant women is the mode of delivery. Beyond the decision as to whether or not to have a cesarean, pregnant women have the right to decide regarding many other areas (Enkin, 1977). More complex decisions require much thought and analysis. Especially for these decisions, use of a system such as the Health Decision Model, described below, can help the nurse-midwife have a clearer picture of the pregnant woman's available choices and ways to increase a pregnant woman's skill as a decision maker.

The Schwartz and Griffin (1986)'s Health Decision Model (HDM), which enumerates factors potentially affecting health decisions, health behavior compliance, and health outcomes, including patient preferences, is used to investigate decision making regarding cesarean section. Three key factors are used in the investigation: (1) specific health beliefs relates to perceptions, e.g., perceived susceptibility to disease, severity of condition, patient preferences, e.g., benefits and risk, (2) patient characteristics links to decision making styles and (3) sociodemographic includes personal factors. The decision makers' perceptions of the problem will determine what data are collected. There are many aspects of decision maker characteristics. For

the reviewing of literature and clinical experience, the important decision maker's characteristics are decision making style and personal factors (Assael, 1995; Galotti, 1998; Galotti, Pierce, Reimer & Luckner, 2000; Rakich et al., 1985; Scott & Bruce, 1995). Decision making style is the individual's characteristic mode of perceiving and responding to decision making tasks (Harren, 1979). Driver (1979) and Driver et al. (1990) proposed that decision making style is a learned habit and that the key differences among styles involve the amount of information considered during a decision and the number of alternatives identified when reaching decisions.

The decision making style of the decision makers can affect the way they will deal with data and use the decision making process. The personal factors influence how individuals respond to treatment recommendations and make their decisions. Details of three influencing factors (perceptions of cesarean section, decision making style and personal factors) are provided below.

Recent research has also revealed that factors which influence the decision to perform a cesarean section involve the perceptions of pregnant women (Tatar, Gunalp, Somunoglu & Demiroglu, 2000). Perception is a process of interaction with the environment. The individual receives or extracts information about objects or events encountered and organizes or interprets the experience to formulate a representation or image of reality (Dember, 1960; Forgas & Melamed, 1966; King, 1981).

The perceptions can be grouped into four major perception dimensions. First, perceived susceptibility refers to a person's view of the likelihood of experiencing a potentially harmful condition. Next is perceived severity which is concerned with how threatening the condition is to the person. The third is perceived benefits, which focuses on the effectiveness of specific behavior in reducing the threat of the



condition. Finally, the perceived barrier relates to the negative aspects of the anticipated behavior (Janz & Becker, 1984). The pregnant woman's perceptions on susceptibility, severity, benefits, and the barriers of cesarean section are possible significant factors in making decisions. However, these issues have not been explored systematically regarding perceptions of cesarean section in the four dimensions of the Health Belief Model. Existing literature focuses only on the benefits and risks (Shearer, 1993).

The modern problem is that many women have opportunities to choose but some of them do not make the right choice for themselves. One of the reasons for making the wrong choice is an inflated perception of the benefits of cesarean section, overlooking the potential substantial and severe complications. There is evidence indicating that women choose cesarean section based on preconceived ideas and misconceptions about this mode of delivery. Pregnant women might lack a general understanding of cesarean section, especially women who have not experienced it (Churchill, 1997). This indicates that accurate information provided to pregnant women is often inadequate.

The recent United Nations Conferences on maternal health in Cairo and Beijing emphasized the right of women to give birth safely as an indispensable part of reproductive health (Nakajima, 1997). Furthermore, empowerment of women was a central theme at the 1994 United Nations-sponsored International Conference on Population and Development (ICPD), held in Cairo, Egypt (WHO, 1995). Empowerment has been increasingly acknowledged worldwide as an essential component of sustainable development (WHO, 1996). Empowering women includes enabling them to overcome these barriers and to make fully informed choices,

particularly in the areas affecting the most intimate aspect of their lives and their reproductive health (WHO, 1998). Midwives should take a role in fostering the empowerment of pregnant women's decision making (Burtch & Hird, 1997) and in reducing unnecessary cesarean sections requested by pregnant women. A thorough understanding of the nature of decisions increases the ability of midwives to function more effectively in a health care provider role. A knowledge of decision making can help nurse-midwives better understand how pregnant women approach choices.

The steps that should occur in empowering pregnant women to make choices includes eliciting the pregnant woman's views about treatment options, especially perceptions of cesarean section. Technical information should be presented to the women in an unbiased and clear way as decision making regarding the mode of delivery is a medically and socially complex process (Showalter, 1999).

There are many factors that may be relevant to the individual woman's decision making such as decision making style, knowledge, educational level, locus of control, feeling personally important in making the choice and any number of other individual differences such as perception, information, value, life experience, individual preference and feelings regarding risk (Assael, 1995; Galotti, 1998; Galotti, Pierce, Reimer & Luckner, 2000; Rakich et al., 1985; Scott & Bruce, 1995). Rackich and others (1985) identified many factors that influence and shape the manner in which decision making is performed, the style of decision making used, and the final outcome or quality of the alternative selected. These are (1) attributes pertaining to the decision-maker, (2) the nature of the situation and (3) the environment. To some degree, all those factors can influence and affect each decision making step beginning

with problem identification and continuing through assumptions, identifying tentative alternative solutions, and decision and implementation (Rakich et al., 1985).

Assael (1995) has suggested that decision-making is influenced by individual characteristics, including decision making style. Decision making style refers to the manner in which decision-makers think and react to problems, the way they perceive, their cognitive responses, and their values and beliefs, which vary from individual to individual and from situation to situation (Turban, 1990). Driver (1979) has defined decision making style as “a habitual pattern individuals use in decision making”. Scott and Bruce (1995) classified five decision making style as: rational decision making style characterized by a thorough search for and logical evaluation of alternatives; intuitive decision making style characterized by a reliance on hunches and feeling; dependent decision making style characterized by a search for advice and direction from others; avoidant decision making style characterized by attempts to avoid decision-making; and spontaneous decision making style characterized by growing naturally without being planned or tended. Individual differences in decision making can be examined. A number of studies of decision making style focus only on decision making style among careers, consumers, and administrators (Bowman, 1992; Jessie & Jing, 1997; Scott & Bruce, 1995; Westcot, 1991). Little is known about decision making style among pregnant women regarding the decision of birth mode.

Personal factors that influence decision making include characteristics such as age, sex, income, educational level, and health insurance (Schwartz & Griffin, 1986).

In Thailand, recent research has shown that socio-cultural factors such as beliefs, and personal factors including age, occupation, income, educational level, and parity were associated with cesarean section (Laohatapongpuri, 1993; Pothong, 2002;

Wichaiditsa, 1997). Additional persons involved in the decision making process are friends, husband and physicians (Clark & Taffel, 1993; Guihard & Blondel, 2001; Lee, Holroyd, & Yuen Ng, 2001; Peripert & Bracken, 1993; Pothong, 2002; Tussing & Wojtowycz, 1992; Wilkson et al., 1998). In the present study, the selected personal factors are age, educational level, occupation, family income, parity, health insurance, home location, and selection of hospital for prenatal care. The three key factors studied which are implicit in increasing the rates of cesarean section including, (1) personal factors (2) perceptions of cesarean section and (3) decision making style.

Little is known about the relationships between personal factors, perceptions of cesarean section, decision-making style, and decision making regarding cesarean section in the absence of medical indications. Therefore, this study was conducted in order to provide nurse midwives with a clear and systematic understanding of the factors related to decision making regarding cesarean section by pregnant women. A two-phase approach was employed. In phase one, structured individual interviews were conducted with post-cesarean mothers who demanded unnecessary cesarean section. Then, the Perceptions of Cesarean Section Questionnaires for phase two was developed based on data obtained from phase one. In phase two, a quantitative research survey was used to examine the predictors of decision making regarding cesarean section. The knowledge gained can be employed for developing health educational level programs to assist expectant mothers in making appropriate decisions on the mode of delivery, which can lead to safe and healthy delivery outcomes for both mothers and infants.

## Objectives of the Study

The purposes of this study were to:

1. Develop instruments for evaluating perceptions regarding cesarean section.
2. Examine the relationship between personal factors and decision making regarding cesarean section.
3. Examine the relationship between perceptions of cesarean section and decision making regarding cesarean section.
4. Examine the relationship between decision making style and decision making regarding cesarean section.
5. Examine the predictors of the above decision making factors regarding cesarean section.

## Research Questions

The following research questions were addressed in this study.

1. What are the main psychometrics properties on the perceptions of cesarean section and decision making style instruments?
2. What is the relationship between personal factors and decision making regarding cesarean section?
3. What is the relationship between perceptions of cesarean section and decision making regarding cesarean section?
4. What is the relationship between decision making style and decision making regarding cesarean section?

5. What are the key predictors of decision making regarding cesarean section among personal factors, perceptions of cesarean section, and decision making style?

### Operational Definitions

The following definitions of terms were used in the research.

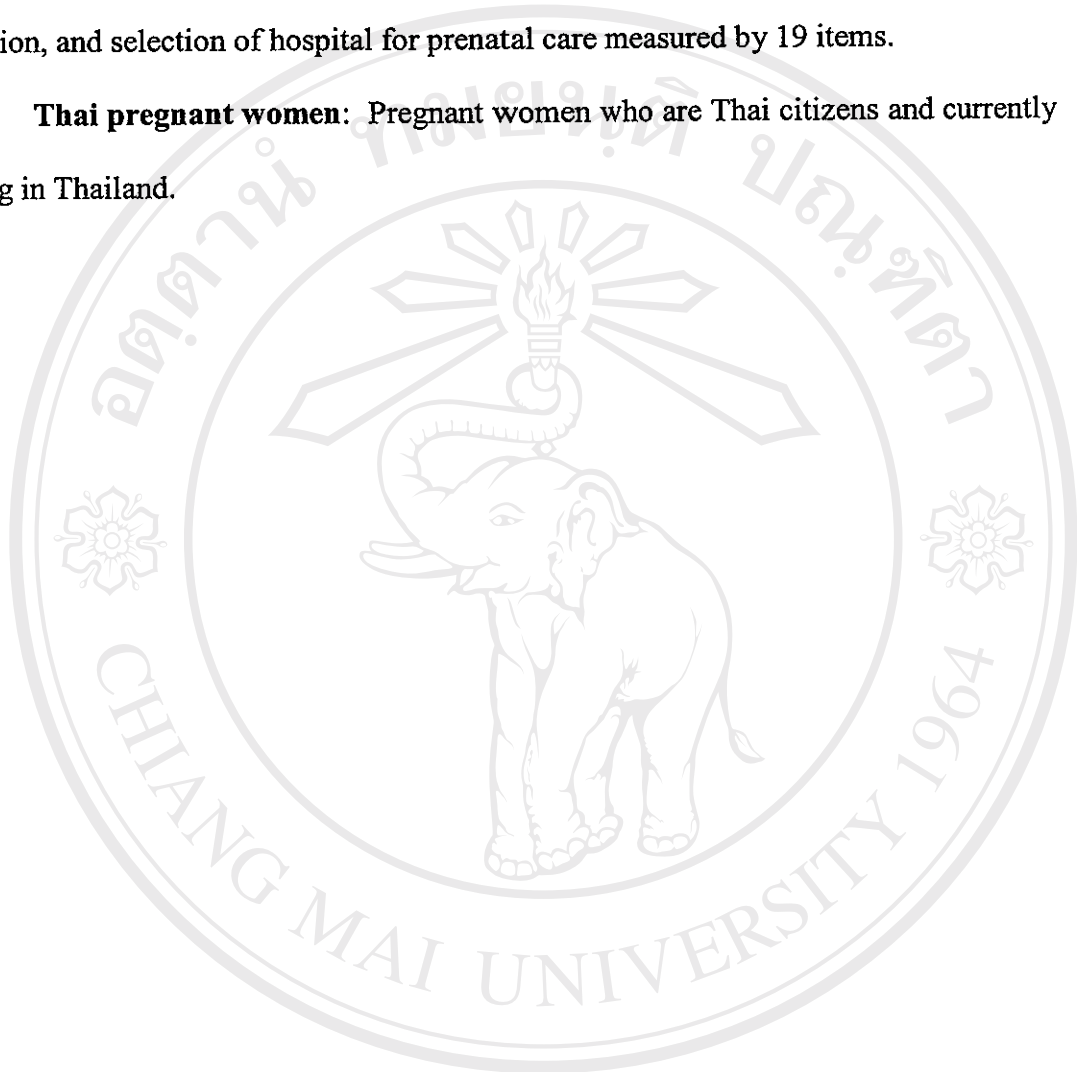
**Decision making regarding cesarean section:** Intention by pregnant woman to have a cesarean section in the absence of traditional medical indication during the third trimester of pregnancy, measured by selecting the modes of delivery questionnaires.

**Perceptions of cesarean section (POCS):** Beliefs, thoughts and feelings of pregnant women regarding cesarean section including susceptibility, seriousness, benefits and barriers involving physical and psychological complications or consequences of cesarean section, social, and financial constraints, as measured by 49 items on the survey questionnaire. Perceptions of Cesarean Section Instrument was developed by the investigator.

**Decision making style (DMS):** The learned, habitual response patterns of an individual pregnant woman when confronted with a decision situation, can be classified into five categories: rational DMS, intuitive DMS, dependent DMS, avoidant DMS, and spontaneous DMS, measured by a 25 items. Decision making style instruments was developed by Scott and Bruce (1995), and back translated by the investigator and the expert.

**Personal factors:** Personal characteristics of pregnant women including age, educational level level, occupation, family income, parity, health insurance, home location, and selection of hospital for prenatal care measured by 19 items.

**Thai pregnant women:** Pregnant women who are Thai citizens and currently living in Thailand.



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