Decision-Making on Birth Choices Following a Caesarean Delivery in Taiwan

By

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DEAKIN UNIVERSITY
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Abstract

The growing caesarean delivery (CD) rates continue to challenge maternal care in numerous countries. CD not only increases the risk of maternal and neonatal morbidity and mortality but also results in a greater economic burden. Although Taiwan has high CD rates and low vaginal birth after caesarean (VBAC) rates, little is known about factors influencing VBAC rates in this country.

The aim of this research was to gain an insight into decision-making on birth choices following a CD in Taiwan. The research was conducted in a private medical centre in northern Taiwan. Theoretical sampling was used to ensure the appropriateness and adequacy of the sample. The research comprised two phases. Phase I explored Taiwanese obstetricians’ decision-making regarding mode of birth following a woman’s primary CD. Phase II encompassed three stages, where Stage 1 consisted of naturalistic observation during obstetric consultations to understand the processes and influences on decision-making among obstetricians and pregnant women. Phase II, Stage 2 involved interviews with pregnant women. Phase II, Stage 3 consisted of interviews with postnatal women. A total of 11 obstetricians and 21 pregnant women participated. The constant comparative analytical method and thematic analysis were employed for data analysis. Software NVivo10 was used to organize the data.

Ensuring safety was the main theme that emerged from this study. Safety
and risk management were the major influences for both women’s and
obstetricians’ decisions. The findings from the obstetricians’ interviews
indicated that internal and external factors influenced obstetricians’ decisions to
offer VBAC. Internal factors included attitudes toward supporting VBAC, and
confidence in performing VBAC. External factors included National Health
Insurance (NHI) policy on reimbursement, hospital policy regarding VBAC, the
24 hour system of the designated obstetrician, medical malpractice and
women’s choice. Medical malpractice was the most frequently cited external
influence. Obstetricians used either a dictatorial approach or a consultative
approach with women. When using a dictatorial approach, the busy
obstetricians (obstetrician consulting >50 women in a half day) and less
experienced obstetricians (less than 15 years of clinical working experience)
tended to recommend or perform repeat caesarean delivery (RCD) without
providing any information regarding VBAC. In contrast, some more
experienced obstetricians (more than 15 years of clinical working experience)
assisted women in making decisions regarding mode of birth often using four
steps of consultation, including: inquiring about women’s intention; informing
women of alternatives; simple explanation/analysis of risks, and letting women
decide for themselves. These experienced obstetricians tended to respect
women’s decisions to choose a VBAC or a RCD.

Observations highlighted the frequency and duration of consultations. The
majority of obstetricians consulted 20-40 women in a half day and finished
their consultation within 5-8 minutes. The majority of women had already made
their decisions regarding mode of birth at 33-34 weeks gestation so their
obstetricians did not provide any further counselling regarding mode of birth.

Women’s decisions were also influenced by internal and external factors. Internal factors included women’s previous birth experience, fear of a vaginal birth, evaluation of modes of birth, and current pregnancy (such as foetal size and presentation). Previous birth experience was the influencing factor most frequently cited by women. External factors included information resources (obstetricians’ recommendations, the experiences of significant others and the internet) and health insurance (NHI and private insurance). Before visiting an obstetrician, the majority of women wished for a birth that was as natural as possible. Some women complied with obstetricians’ recommendations to make a decision for RCD during the first trimester of pregnancy. Other women made a decision for VBAC/RCD at the second or early third trimester of pregnancy. The decision-making process for women included women information searching, respecting obstetricians’ professional judgement, an evaluation of alternatives, and making a decision regarding mode of birth. Some women chose RCD after the risk of uterine rupture was explained by obstetricians. Postnatal women reflected on their decisions regarding mode of birth in three aspects: birth choices; outcomes of decisions; and factors influencing decisions. Women’s range of reactions to their decisions regarding mode of birth included satisfaction/ dissatisfaction, acceptance, regret and unresolved questions.

The study findings have a number of implications for clinical practice. All women have the right to be informed of the alternative options of birth. Internal factors, in particular, establishing a supportive birth environment and reducing
unnecessary medication intervention is helpful in facilitating women’s confidence in VBAC. External factors such as the financial coverage for RCD from NHI, explanation of risk from obstetricians are also potentially modifiable. In addition, establishing a website to provide reliable information is also imperative. Midwife-led continuity of care holds promise for promoting high quality maternal care.

This is the first study conducted in Taiwan to capture the influences on decision-making regarding birth choice, and in particular, the real-world information sharing between obstetricians’ and pregnant women. The evidence generated from this dissertation makes an important contribution to the knowledge of decision-making on mode of birth following a CD, the factors influencing decision-making processes regarding mode of birth, women’s reflections on choice, and the information required for decision-making regarding mode of birth. Additionally, a model of decision-making regarding mode of birth developed from this dissertation may assist pregnant women making birth choices and the future education of midwives.

**Key words:** vaginal birth after caesarean delivery, repeat caesarean delivery, mode of birth choices, decision-making, qualitative research
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Glossary

Antepartum haemorrhage

Any vaginal bleeding from the 20th week of pregnancy to the commencement of labour

Birth

Birth refers to the expulsion of a newborn infant from a woman's uterus. Birth, is also referred to as childbirth, delivery, partus, or parturition.

Caesarean delivery (CD)

In contemporary practice, caesarean delivery is the birth of an infant, usually through a lower uterine abdomen and uterine incision. CD is also referred as caesarean section, C-section, caesarean birth.

Classical caesarean delivery

A midline longitudinal abdominal and uterine incision which allows a larger space to deliver the baby. Except in extreme premature operative births, the classical incision is now rarely used in contemporary practice as it is associated with increased risk of uterine rupture in a subsequent pregnancy and/or labour.

Cephalic-pelvic disproportion

A condition in which the foetal head is in a position, or of a size, or shape that it cannot pass through the maternal pelvis.

Dysfunctional labour

An incoordinate or ineffective pattern of labour that results in slow or no progress in cervical dilatation

Dystocia
A difficult labour due to mechanical factors or due to inadequate uterine or other muscular activities

**Elective primary caesarean delivery (EPCD)**

EPCD refers to a woman’s first operative delivery of a baby when the woman is not in labour.

**Foetal distress**

Evidence that the foetal is under stress usually due to inadequate placental perfusion

**Hypoxic-Ischemic Encephalopathy (HIE)**

Brain injury that results from birth asphyxia.

**Induction**

The use of medications or other interventions to ‘speed up’ the process of labour.

**Mal-presentation**

The foetal part entering the maternal pelvis is other than cephalic (brow, face, shoulder, or breech presentation).

**Myomectomy**

Removal of uterine muscle often performed to excise a fibroid. As with a lower uterine caesarean section, this involves a scar on the uterine wall that poses a risk of uterine rupture in a subsequent pregnancy and/or labour.

**Nulliparous**

A woman who has not given birth to viable foetus.

**Trial of labour (TOL)**

TOL is the plan for a have vaginal birth, often after caesarean delivery.

**Vaginal birth after caesarean (VBAC)**
VBAC refers to birthing a baby vaginally after a previous baby has been delivered by caesarean delivery. In the literature this term is used trial of labour. In this thesis both TOL and VBAC are used to reflect the interchangeable use of these terms within the literature.

**Umbilical Cord prolapse**

A rare obstetrical emergency that occurs when the umbilical cord descends before the foetal presenting part. It is life-threatening for the foetus since blood flow through the umbilical vessels is usually compromised from compression of the cord.
Chapter One

Introduction
Thesis Chapter One: Introduction

Navigation map of thesis – Chapter One
CHAPTER ONE: INTRODUCTION

1.0 Introduction

The growing prevalence of caesarean delivery (CD) continues to challenge maternal care in numerous countries (Declercq, Young, Cabral, & Ecker, 2011; Soltani & Sandall, 2012). According to the World Health Organization (WHO) reports from 2011, of all births the average CD rates during 2000-2010 were 31.1% in Australia, 26.3% in Canada, 31.8% in the United States, 43.8% in Brazil, 27.0% in China, and 37.7% in the Republic of Korea (WHO, 2011). In a recent report, the highest CD rates seem to be practiced in Latin American countries and some countries in Asia. Iran and China exhibited the highest CD rates among all the presented countries (Soltani & Sandall, 2012) (Figure 1-1). North European countries showed moderate CD rates with lowest rates in Netherlands and Norway. In America, Australia and Canada, CD rates were higher than the named North European countries, while African countries have lower rates of CD (Soltani & Sandall, 2012)(Figure 1-1). In some countries, such as the Slovak Republic, Czech Republic, Ireland, Austria, and Hungary, their CD rates more than doubled between 1992 and 2007 (Declercq et al., 2011) (Figure 1-2).

While CD was performed with the reasons of improving maternal or neonatal health (Gary et al., 2005), there is little evidence to demonstrate that CD has contributed to improved perinatal outcomes. Instead, evidence showed that CD increases maternal and neonatal morbidity and mortality (Declercq, Barger, et al., 2007; Gibbons et al., 2010; Souza et al., 2010).

Figure 1-1 Percentage of non-instrumental vaginal birth and caesarean delivery rates among selected countries from across the globe
As a result of the high prevalence of CD, vaginal birth after caesarean (VBAC) was been proposed in the 1920s to reduce the incidence of CD and associated risks (ACOG, 1999). Although VBAC was endorsed as a safe and acceptable option by the American College of Obstetricians and Gynaecologists (ACOG) in 1999, there has been a dramatic decline in VBAC over the past two decades in developed countries (ACOG, 2010; Black, Kaye, & Jick, 2005; Homer, Johnston, & Foureur, 2011). The decline in VBAC rates has been attributed to...
concern about increased maternal and neonatal risks, particularly uterine rupture and perinatal death (Al-Zirqi, Stray-Pedersen, Forsen, & Vangen, 2010). Consequently, repeat caesarean delivery (RCD) has increased sharply.

Taiwan has extremely low VBAC rates and high RCD rates (Health Promotion Administration, 2013). According to the statistical records, Taiwan has maintained CD rates between 35-37 % over the past 5 years (Health Promotion Administration, 2013), over twice the World Health Organization recommended maximum of 15% (World Health Organization, 1985). A previous CD ranks as the top reason for CD in Taiwan (Chu, Tai, Hsu, Yeh, & Chien, 2010). The relatively high RCD rates are not associated with improvement in perinatal outcome (Blanchette, 2011; Cheng, 2011).

While evidence that VBAC is an efficient way to lower CD rates in Taiwan exists (Liang et al., 2004), the prevalence of VBAC was less than 1% in Taiwan and little is known about factors influencing VBAC rates in Taiwan (Health Promotion Administration, 2013). To understand this phenomenon, it is important to comprehensively understand how decision-making on birth choices following a CD are made by health professionals and women who have had a previous CD and to ascertain what influences their decisions. An analysis of CD and VBAC historical trends offer may further understanding of the scope of the phenomenon.
1.1 Background to the study

The historical trend of CD and VBAC has varied greatly in western countries. Obstetricians recommended RCD to women who had had a previous CD. Consequently, RCD has been associated with the notion of “once a caesarean, always a caesarean” (Cragin, 1916), with rates of 92% in the United States (Heron et al., 2009), 44% in the United Kingdom (NICE, 2004), and 83.3% in Australia (Laws & Sullivan, 2009). To minimize the high percentage of CD, VBAC was proposed in the 1920s. Several countries such as the United Kingdom, United States, Canada, New Zealand and Australia have established VBAC guidelines for obstetricians performing VBAC. These guidelines comprise recommendations about suitable VBAC candidates, contraindications, facilities and resources required for VBAC. Although such countries have established VBAC guidelines, the effects on CD rates in clinical practice are limited, possibly due to wide variation in the guidelines (Foureur, Ryan, Nicholl, & Homer, 2010). Variation in the uptake of VBAC guidelines may relate to potential biases in published reports, a lack of randomized control trials, non-adherence by health professionals and a lack of knowledge by women (Bujold, 2010; Foureur et al., 2010).

1.1.1 International trends

Between 1970 and 2010, the CD rates in the United States increased dramatically from 5% to more than 32% (CDC, 2009; Menacker, Hamilton, & National Center for Health Statistics, 2010)(Figure 1-3). Notably, with the high CD rates in the 1980s, there was a strong push for decreasing CD by both the National Institute of Health and the WHO during this time period. Thus, there has
been a gradual decline in the CD rates associated with VBAC since 1985. The rates of VBAC increased from 5% of all deliveries in 1985, to a peak of 28% in 1996. However, from 1996-1999, the rate of CD increased, while the rate of VBAC has declined from 28-23%. In 2006, the VBAC rates decreased to 8.5% of all deliveries and the total CD rates increased to 31.1% (Menacker et al., 2010).

Source: CDC/NCHS, National Vital Statistics System

In the United Kingdom, 3% of births in England were by CD in the 1950s. The CD rates rose to 10% during the early 1980s and started to climb rapidly in the 1990s, from 12.5% in 1990 to 26.3% in 2009 (Birth Choice UK, 2010) (Figure 1-4). According to a recent report in 2009, CD rates were 24.6% in England, 30% in Northern Ireland, 26.1% in Scotland and 26.6% in Wales (Birth Choice UK, 2010). The proportion of VBAC decreased from 45% in 1991 to 37% in 1999 (Black et al., 2005). The National Sentinel Caesarean Section Audit showed that the overall rates of successful VBAC were 33%; ranging from 24% in Northern Ireland to 38% in the North East in 2000 (Thomas & Paranjothy, 2001).
According to historical figures from the Australian Institute for Health and Welfare (AIHW), initial CD rates in Australia were 5% in the 1960s. In the 1980s, the CD rates reached 15%, the WHO maximum recommendation (World Health Organization, 1985). The rates steadily increased in the 1990s. The CD rate has shown an upward trend in the ten years to 2010, increasing from 25.4% nationally in 2001 to a peak of 31.6% in 2010. In contrast, the proportion of instrumental deliveries has remained stable at about 11.0% throughout this period (AIHW, 2012) (Figure 1-5), while the VBAC rate remained steady at 25.3% from 1992 to 1997 (Appleton et al., 2000). Over the nine-year period from 1998 to 2006, the VBAC rates declined from 31% to 19% (Homer et al., 2011).
Source: AIHW. (2012). Australia's Mothers and Babies 2010

Figure 1-5 Caesarean delivery and instrumental delivery in Australia (2001- 2010)

1.1.2 Taiwan’s trends

Taiwan has a similar CD and VBAC historical track record to western countries. The rates of CD were low in Taiwan in the 1950s. The CD rate was 6.2% in 1950 and rose dramatically to 35% in 1995 (Fu, 2006). According to the statistical records, Taiwan has maintained CD rates between 35-37% over the past 5 years (Health Promotion Administration, 2013), over twice the World Health Organization recommended maximum of 15% (World Health Organization, 1985). In contrast, there is little documentation on the prevalence of VBAC in Taiwan; the government reports VBAC rates in the last five years of less than 0.5% (Health Promotion Administration, 2013) (Figure 1-6).
A recent report from the Taiwan Science, Technology & Society Association presented an analysis of the rates of CD and VBAC, especially focusing on ‘obstetric practices’ and the post-war traditions of obstetrics (Fu, 2006). There were two main hospital services providing obstetric care, representing the Taiwanese medical environment during the 1950s and 60s: National Taiwan University Hospital (NTUH) and Taipei Municipal Chung-Hsing Hospital (TMCH). The Obstetrics-Gynaecology tradition in TMCH was to offer female patients operations; CD rates reached 14% in the 1960s (Fu, 2006). Compared to TMCH, NTUH did not routinely utilise a surgery for birth. NTUH asserted the philosophy of ‘once a section, not always a section’ and engaged in VBAC and 132 VBAC were achieved with a 79.5% success rate, 1955-1962. During the late 1970s, both hospitals were interested in practicing VBAC; the CD rates were 16%. After the 1970s, because of concern about uterine rupture and perinatal death, both NTUH and TMCH changed their ‘philosophy’ to ‘once a caesarean, always a
caesarean’, and avoided performing VBAC, resulting in an acceleration in CD rates in Taiwan (Fu, 2006).

1.2 Elective repeat caesarean delivery: maternal, foetal and neonatal risks and benefits associated with mode of birth

Women who have had a precious CD often chose elective repeat caesarean delivery (ERCD) for a subsequent pregnancy. However, ERCD is associated with an increased risk of adverse maternal and neonatal outcomes (Dodd, Crowther, Huertas, Guise, & Horey, 2004; Ma et al., 2009). As the number of CD for each woman increases, performing surgery becomes more difficult due to adhesions, and this increases the risk of damage to the bladder or bowel and haemorrhage at the time of surgery (Dodd et al., 2004). With repeat surgery, there is a greater risk of experiencing difficulties in placenta praevia in a subsequent pregnancy. In very special cases, placenta accrete and placenta percreta can occur if the placenta continues to develop into the myometrium, the muscle wall of the uterus (Dodd et al., 2004), and these conditions poses a high risk for postpartum haemorrhage and the later requires an emergency hysterectomy. The magnitude of increased maternal morbidity is associated with increasing numbers of CD (Silver et al., 2006).

Neonatal morbidity after ERCD is increased (Tita et al., 2009; Zanardo et al., 2004). Neonates delivered via CD, particularly without the onset of labour, may have increased risk of transient tachypnoea as hormonal and physiological changes associated with labour are necessary for lung maturation in neonates (Tita...
et al., 2009; Zanardo et al., 2004). Thus, gestational age at the time of ERCD is important for respiratory morbidity in neonates (Hansen, Wisborg, Uldbjerg, & Henriksen, 2008). In particular, respiratory distress often occurs for infants delivered by CD before 39 weeks gestation and requires admission to a special nursery care (Timofeev, 2011; Tita et al., 2009; Zanardo et al., 2004).

While uncommon, uterine rupture is a severe life-threatening complication of labour which is increased in births following a CD, and occurs when the caesarean scar breaks down (Dodd et al., 2004). The risk of uterine rupture is associated with VBAC but this has been an area under significant research. A systematic review aimed to review the evidence about maternal and neonatal outcomes relating to VBAC. This systematic review included 203 studies reporting research on United States women with a prior caesarean who were eligible for VBAC or elective repeat caesarean delivery (ERCD) (Guise et al., 2010). Once a woman has undergone a CD, she has a baseline risk for uterine rupture in subsequent pregnancies that is estimated at 3 per 1,000 (Guise et al., 2010). For women choosing VBAC in a subsequent pregnancy, this baseline risk increases to 4.7 per 1,000, compared with 0.3 per 1,000 for women choosing ERCD. It is noted that the occurrence of uterine rupture or dehiscence remains very low for women. Although six percent of uterine ruptures were associated with perinatal death in the systematic review, the systematic review was limited to observation rather than randomize control trial, which may be disproportionately associated with a failed VBAC (ACOG, 2010). In fact, the risk of uterine rupture depends on several factors, including parity as well as previous vaginal birth, time interval between pregnancies, induction of labour
and direction of scar and gestation (Dodd et al., 2004; Guise et al., 2010).

The rate of perinatal mortality for VBAC is also relatively rare and had a shorter hospital stay. Perinatal mortality was significantly increased for VBAC at 1.3 per 1,000 versus 0.5 per 1,000 for ERCD. Rates of maternal hysterectomy, haemorrhage, and transfusions did not differ significantly between VBAC and ERCD (Guise et al., 2010). Compared to ERCD, VBAC was associated with a shorter hospital stay; the mean length of stay for TOL was 2.55 days compared with 3.92 days for ERCD (Guise et al., 2010).

Guise et al. (2010) also analysed the short-term neonatal outcomes in their systematic review (Guise et al., 2010). The overall perinatal mortality rate was 0.13% in women having VBAC and 0.05% in women having ERCD (Guise et al., 2010). Risk for transient tachypnoea of the newborn in the VBAC group was 3.6% and 4.2% for ERCD. This systemic review did not find the frequency of hypoxic–ischemic encephalopathy to be significantly different in women with VBAC and ERCD (Guise et al., 2010). In this systematic review, there was only one study that measured “proven sepsis”, and the researchers found no statistically significant differences between VBAC and ERCD neonates (Guise et al., 2010). Four cohort studies were reviewed, and all reported no significant difference in the five minute Apgar scores between VBAC and ERCD. Five of the six studies found no significant differences in the frequency of admissions between VBAC compared with ERCD, while one study found a significant increase in admissions of infants born after VBAC compared with ERCD (Guise et al., 2010).
In summary, VBAC following one CD is associated with fewer complications; although a failed VBAC is associated with more complications than ERCD (Table 1-1 & Table 1-2).

Table 1-1 Comparison maternal risks from ERCD and VBAC

<table>
<thead>
<tr>
<th>Maternal Risks</th>
<th>ERCD (%)</th>
<th>VBAC (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One CD</td>
<td>Two or more CDs</td>
</tr>
<tr>
<td>Endometritis</td>
<td>1.5-2.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Operative injury</td>
<td>0.42-0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Blood transfusion</td>
<td>1-1.4</td>
<td>0.7-1.7</td>
</tr>
<tr>
<td>Hysterectomy</td>
<td>0-0.4</td>
<td>0.2-0.5</td>
</tr>
<tr>
<td>Uterine rupture</td>
<td>0.4-0.5</td>
<td>0.7-0.9</td>
</tr>
<tr>
<td>Maternal Death</td>
<td>0.02-0.04</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Reference: Adopted from ACOG (2010)

Table 1-2 Comparison of neonatal morbidity and mortality from ERCD and VBAC

<table>
<thead>
<tr>
<th>Neonatal Risks</th>
<th>ERCD (%)</th>
<th>VBAC (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antepartum stillbirth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37-38 weeks</td>
<td>0.08</td>
<td>0.38</td>
</tr>
<tr>
<td>39 weeks or greater</td>
<td>0.01</td>
<td>0.16</td>
</tr>
<tr>
<td>HIE</td>
<td>0-0.13</td>
<td>0.08</td>
</tr>
<tr>
<td>Neonatal death</td>
<td>0.05</td>
<td>0.08</td>
</tr>
<tr>
<td>Perinatal death</td>
<td>0.01</td>
<td>0.13</td>
</tr>
<tr>
<td>Neonatal admission</td>
<td>6.0</td>
<td>6.6</td>
</tr>
<tr>
<td>Respiratory morbidity</td>
<td>1-5</td>
<td>0.1-1.8</td>
</tr>
<tr>
<td>Transient tachypnoea</td>
<td>6.2</td>
<td>3.5</td>
</tr>
<tr>
<td>Hyperbilirubinemia</td>
<td>5.8</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Reference: Adopted from ACOG (2010)
1.3 The economic impact of elective repeat caesarean delivery

ERCD has a major economic impact on health care (Fawsitt et al., 2013; Gibbons et al., 2010). A review of international literature was conducted to derive representative estimates of adverse maternal health outcomes following VBAC and ERCD. Delivery/procedure costs derived from primary data collection and combined both “bottom-up” and “top-down” costing estimations. A cost-effectiveness analysis was used to evaluate the costs and short-term maternal health consequences associated with VBAC and ERCD (Fawsitt et al., 2013). Maternal morbidities emerged in twice as many cases in the VBAC than the ERCD. VBAC was found to be the most-effective method of birth because it was substantially less expensive than ERCD (€1,835.06 versus €4,039.87 per women, respectively) (Fawsitt et al., 2013). In 2010, the WHO also produced a report of the cost of CD performed per year for 137 countries (Gibbons et al., 2010). In this report, countries with CD rates below 10% were considered to show under-use while countries with rates above 15% were considered to show overuse. In 2008, 3.18 million additional CD were needed in some countries and 6.20 million unnecessary CD were performed in other countries. The cost of the global “overuse” of CD was estimated to amount to be approximately US$ 2.32 billion, while the cost of the global “needed” CD was approximately US$ 432 million. In addition, the combined implications of higher cost per procedure on total cost of ‘overuse’ CD were approximately 5.4 times the cost of the 'needed' procedures, with a value of nearly US$2 billion in surplus resources (Gibbons et al., 2010). While an appropriate proportion of CD (less than 15% of CD rates) improve perinatal outcome, an unnecessary RCD rises
the cost of health care.

1.4 Health and maternal care in Taiwan

In Taiwan, the National Health Insurance System (NHIS) is a social insurance program administered by the government (National Health Insurance Administration, 2014; THRF, 2014). National Health Insurance (NHI) is compulsory social insurance, providing all citizens with equal access to medical services. Insured people need to pay premiums regularly and they receive full medical care. They present their insurance card (IC) while visiting a medical care institution. The premium includes registration fees and partial payment for hospitalisation. In 2011, the total number of hospitals and clinics in Taiwan was 21,437 (Statistics, 2012).

Maternal care is provided by medical centres, regional hospitals and district hospitals (National Health Insurance Administration, 2014). In line with the implementation of the NHI referral system, pregnant women are free to choose their preferred institution for maternal care, either a hospital or clinic, as they are all registered with the NHIS. Taiwanese women usually give birth in hospitals or private clinics. CD is also covered under the NHIS if the pregnant women meet the caesarean indication criteria: foetal distress; dysfunctional labour; antepartum haemorrhage; mal-presentation, cord prolapse, induction of labour failure; genital herpes; previous caesarean; prior uterine surgery; condyloma acuminata infections; treatable foetal congenital abnormalities; pre-eclampsia, estimated infant weight <1500 grams; abnormal pelvis shape; estimated infant weight >4000 grams;
cephalic-pelvic disproportion; obstructive labour, complications resulting from major medical diseases, and other special indications which are diagnosed by physicians and require a detailed description. Notably, NHI offers financial coverage for a subsequent pregnancy as long as women have had a previous CD. As the financial insurance coverage for CD is based on the indication detailed in the women’s medical record, a record of the women’s labour condition may be written by obstetricians in order to meet the requirements for NHI payment (Chu et al., 2010). For example, foetal distress may be documented as the indication which may be defined ambiguously where a foetal heart tracing can be evaluated as ‘non-reassuring’.

With the high CD rates in Taiwan, several policies have been proposed by NHI to reduce CD rates (Lo, 2008; THRF, 2000). NHI used to evaluate the quality of care offered by medical institutes with respect to CD rates since 2000 (THRF, 2000). Additionally, in 2003, to lower the CD, NHI also proposed a VBAC case payment to encourage obstetricians to perform VBAC with an equivalent fee to that of a normal vaginal birth and CD. However, the financial incentives, designed specifically for obstetricians, had limited effect on CD rates (Lo, 2008).

1.5 Midwifery practice in Taiwan

Less than 1% of midwives are in practice in Taiwan and the majority of Taiwanese women travel to hospital for birth (Health Promotion Administration, 2013). According to the statistics of Taiwan in 2013, 71.52% (n=141,253) of babies were born in hospitals and only 0.15% (n=298) of babies were born in
midwife-led clinics, home and others in the suburbs. Of all births, 99.91% (n=197,316) of babies were delivered by physicians while 0.05% (n=95) of babies were born with midwives’ assistance (Health Promotion Administration, 2013).

Midwifery practice is under threat in Taiwan. Between 1951 and 1971, a midwife was the main health professional to assist women during birth. More than 50% of women gave birth with midwifery assistance while less than 20% of women selected delivery by obstetricians. With cultural vicissitudes and the concomitant rise of medicalisation within health services in Taiwan, midwives encountered a series of professional challenges. Firstly, in 1961, the Ministry of Education asserted that obstetricians would be responsible for the implementation of maternal care and issued a cancellation of the midwife system. Secondly, the government cancelled midwifery lists in public hospitals in 1992. More recently, in 1996, the role of the midwife became difficult because midwifery practice was not covered by health insurance (Chiou & Chou, 2006). These changes to health policy have established an obstetrician-oriented birth environment in Taiwan. Numerous organizations adopt obstetrician-provided maternal care in Taiwan, similar to North America. Obstetricians are the primary providers of prenatal care for most childbearing women. An obstetrician is present for the birth, and nurses provide intrapartum and postnatal care (Hatem, Sandall, Devane, Soltani, & Gates, 2008).

In a survey was conducted in 2002 to examine Taiwanese obstetricians’ willingness to work with midwives in practice (Gau et al., 2002). A total of 78 obstetricians (15.6%) responded. Results showed that all obstetricians were
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reluctant to work with midwives. Of all participants, over half (56.4%, n = 44) the obstetricians reported that they were willing to work with midwives if midwives’ qualification was increased to undergraduate level. Notably, 43.6% (n = 34) of obstetricians did not believe that midwives could practice independently. These obstetricians were not willing to work with midwives because of a fear of increasing the risk of adverse outcomes, concerns about the capability of midwives in practice, concerns about an impaired professional image of obstetricians, and concerns about being shifted some maternal care (Gau et al., 2002). With the relatively low response rates, the results may not be representative.

As a result of the high CD rates, the Taiwan government reconsidered the role of midwives (Chiou & Chou, 2006). Midwifery education was restarted and midwives’ qualification was increased to undergraduate level in 1996 and then to a graduate levels in 2000 (Chiou & Chou, 2006). On average, a total of 20 midwives graduated from undergraduate and 10 midwives graduated from postgraduate courses yearly. However, in the midst of medical dominance of maternity care, midwives who had a bachelor or master’s degree still encountered tremendous obstacles in practice, with graduates becoming obstetricians’ assistants rather than leaders of maternity care (Chiou & Chou, 2006).

1.6 Significance of study

While VBAC is a safe intervention to reduce CD and a reasonable option for women who have had a previous CD (NIH, 2010), there has been dramatic
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decline in VBAC in many developed countries. Some health professionals or organizations were not willing to offer VBAC because of concerns of uterine rupture and perinatal death (Al-Zirqi et al., 2010). Evidence shows that the rates of uterine rupture and perinatal death were relatively low. However, the findings did not convince health professionals to change practice in regard to VBAC and little data exists on the factors influencing health professionals’ decision regarding VBAC.

Taiwan has high RCD rates and low VBAC rates (Health Promotion Administration, 2013). In 2013, a total of 197,502 babies were born in Taiwan; 36.36% (n=71,816) of babies were born by CD, over 1 in 3 women delivered by CD. Of all births, RCD rates accounted for 13.81% (n=27,267) in 2013 (Health Promotion Administration, 2013).

Obstetricians play an important role in controlling the incidence of VBAC in Taiwan. One survey in Taiwan highlighted physicians’ attitudes toward CD. Participants included (1) obstetricians/gynaecologists and paediatricians (2) hospital administrators (Gu, 2002). The response rate for obstetricians/gynaecologists and paediatricians and hospital administrators were 20.94% (875/4178) and 26.53% (126/175), respectively. Some physicians (44.5%) suggested that reducing overall CD rates must focus on primary CD; in obstetricians’ views controlled RCD or active promotion of VBAC were not effective in lowering the CD rates. In addition, findings also found that physicians were more negative towards reducing RCD (Gu, 2002). Another survey was conducted in 15 hospitals of Taiwan to examine the effects and
associated factors with VBAC (Li, 2004). A total of 318 women completed a questionnaire. For women who have had a previous CD, 91.5% have a RCD; 41.58% of women chose RCD following their obstetricians’ advice, while 28.87% were self requested (Li, 2004). Of interest, the researcher found that approximately 73.08% of obstetricians agree that VBAC is safe and 50% recommended it if no contraindications is apparent. Despite these findings, a reason for this low rate of VBAC still remains unclear.

Taiwanese obstetricians have been the predominant force on maternal care for over two decades; however, there is a paucity of research exploring how obstetricians influence women’s decision-making regarding mode of birth following a previous CD and what influences determine obstetricians’ decisions. Therefore, this study explored decision-making processes and influences of both women and obstetricians, on mode of birth choices in Taiwanese women following a previous CD.

1.7 Research aims

A qualitative research approach was used to explore decision-making on birth choices following a CD in Taiwan. The aim of this research was to gain an insight into the decision-making surrounding mode of birth in Taiwanese women who have had a previous CD. Specific objectives were:

1. To explore obstetricians’ decision-making processes and influences on mode of birth.

2. To explore women’s decision-making processes and influences on
mode of birth choices following a primary CD.

3. To explore postnatal women’s evaluations about their decision-making and influences on mode of birth.

1.8 Thesis structure

This thesis comprises of eight chapters. A literature review is presented in chapter two. The theoretical approach is described in chapter three and research methods are delineated in chapter four. The findings of obstetricians and women are presented in chapters five and six. The discussion is presented in chapter seven. Finally, the conclusion is presented in chapter eight.

1.9 Summary

There is an international trend for increasing CD rates. VBAC is a safe and acceptable birth choice following a CD. However, the rates of VBAC are declining annually. In Taiwan, the extremely high CD rates and low VBAC rates are challenging maternal care. Exploring the decision-making related to birth choices following a CD may facilitate a better understanding of the phenomenon.
Chapter Two

Literature Review
Thesis Chapter Two: Literature Review

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CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter provides a review of the literature pertaining to mode of birth choices, focusing on decision-making on birth choices following a primary CD. The aim of this chapter is to critically review the literature to understand the birth choices made by women who have had a previous CD and what influences their mode of birth choices. The beginning of the chapter discusses reasons for RCD in detail. Following this, in order to understand women’s attitudes and behaviours regarding mode of birth, factors influencing women’s decisions are examined. Finally, research on informed decision-making in maternal care is critically examined.

2.1 Reasons for repeat caesarean delivery

Women usually have a RCD following a primary CD. Primary CD has been attributed to both medical and non-medical reasons (Lavender, Hofmeyr, Neilson, Kingdon, & Gyte, 2012; Mondal, 2007). Medical reasons for a primary CD are maternal-related, foetal-related or arise as a combination of maternal and foetal issues. In some situations a CD may be the only safe option for mother and baby, for example cephalopelvic disproportion (CPD), malpresentation (e.g., breech, shoulder), placenta praevia, placental abruption, dysfunctional labour pattern, umbilical cord prolapse and multiple pregnancies. Medical risk factors such as hypertension disorders, active genital herpes, positive HIV status, and diabetes
may also require a consideration of CD (Mondal, 2007).

Non-medical reasons have been reported associated with caesarean deliveries by maternal request (CDMR) (Mazzoni et al., 2011). One systematic review in which 200 studies published between 2000 and 2005 reviewing on women’s preference or request for elective CD were screened. A total of 17 studies (two qualitative studies and 15 experimental quantitative studies) met the inclusion criteria. A range of methodologies were used and all designs were descriptive (Gamble, Creedy, McCourt, Weaver, & Beake, 2007). The results revealed a small proportion of women requested a CD (Gamble et al., 2007). Some women preferred CD for psychological reasons, such as fear of birth and perceptions of safety. In some countries, cultural, institutional and professional settings of decision-making and quality or inequality of care played an important role in decision-making on birth choices (Gamble & Creedy, 2000; Gamble et al., 2007; McCourt et al., 2007).

While perceptions of safety were the common reason for CDMR, evidence demonstrates inconsistent findings in maternal and neonatal risks. Wang (2011) conducted a systematic review aiming to examine the short-term maternal and neonatal outcomes following CDMR compared to planned vaginal delivery (PVD). A total of nine studies were reviewed between 2000 and 2011, including one randomized control trial, one case control, one observational study, and six cohort studies. A total of five areas were reviewed for maternal morbidity: mortality, infection, haemorrhage, injuries, and length of hospital stay. Results showed that mortality was minimal in both CDMR and PVD groups (0-0.1%).
infection and length of hospital stay was higher in the CDMR group and both haemorrhage and injuries occurred more in the PVD group. All three studies that measured neonatal respiratory morbidity showed significant higher risk in the CDMR group compared to the PVD group (Wang, 2011). For the small proportion of CDMR, women did not receive comprehensive information regarding risks and benefits of various birth choices. Instead, they received biased information from the medical field, consistent with ‘CD is now a safe alternative to vaginal birth’. Once women had a CD for their first birth, they often opted RCD for their subsequent pregnancies (Slavin & Fenwick, 2012).

Cultural traditions are another explanation found to be related to CDMR in Taiwan. Chinese women and their families prefer auspicious days and times for elective CD; these are based on superstitious beliefs (Hsu, Liao, & Hwang, 2008; Lin, Xirasagar, & Tung, 2006). Taiwanese women take into account the ‘ghost month’ – they believe that a variety of ghosts will come out in the lunar month of July, thus July is regarded as an inauspicious month for giving birth. In another study, findings revealed that CD was significantly lower in the ghost month than other months while there was an increase in CD rates in June. In particular, Lunar June shows an increase in deliveries in women who had had a previous CD (almost all by CD) (Lin et al., 2006). However, studies related to auspicious time used data derived from medical databases rather than asking women’s views on the decision-making process; the validity of the assumptions therefore is questionable and requires further testing.

Advanced maternal age also has had significant effects on CDMR (Hsu et al.,
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2008; Lin & Xirasagar, 2005). There was a tendency for advanced women to request a CD, particularly in women over 34 years old (Lin & Xirasagar, 2005). Despite the finding, it is important to understand reasons behind advanced maternal age, such as fear of labour pain or a lack of confidence with vaginal birth.

2.2 Factors influencing women’s birth choices

Women’s participation in decision-making regarding birth choices can be affected by several factors, including their knowledge of birth choices, previous birth experience, accessibility of information regarding birth, health professionals’ preference and attitudes, limitations of guideline and policy, and organisational maternal care.

2.2.1 Women’s knowledge of birth choices

Knowledge about risks and benefits of birth choices influences a woman’s ability to make decisions regarding mode of birth. A survey aimed to examine how information patients received in pregnancy affects childbirth preferences and satisfaction. The response rate was 84.6% of total of 80 postnatal women in the United States, 44% had scheduled RCD, 28.8% VBAC, and 27.1% had a RCD following an attempted VBAC (Renner, Eden, Osterweil, Chan, & Guise, 2007). The majority of women reported receiving insufficient information about trial of labour (TOL) and CD. All women who chose TOL felt involved in the decision-making, while almost 20% of women choosing a RCD reported not being involved in decision-making (Renner et al., 2007). Women who had RCD
Thesis Chapter Two: Literature Review

after TOL reported that they were more likely to have been provided with information about uterine rupture, forceps or vacuum delivery, recovery time, and bleeding and blood transfusions after a TOL (Renner et al., 2007). Some women who had a RCD did not receive comprehensive information of risks and benefits regarding VBAC; they therefore opted for a RCD.

One cross-sectional survey in Derby, United Kingdom, aimed to explore women's views on information provided during pregnancy (Soltani & Dickinson, 2005). Response rate was 47% (329/700). Most women obtained information from health professionals, family and friends; however, 28% (73/329) women obtained information from the internet. Although over 90% of women read and understood most or all of the information provided, more than half the women in a non-professional group did not understand all of the information (Soltani & Dickinson, 2005). A similar study of 903 women asked women what knowledge they needed about side effects of labour induction, epidural analgesia and caesarean before deciding to have these interventions. All women felt that all (78-81%) or most (17-19%) complications should be disclosed. However, women were poorly informed about several complications about labour induction and caesarean: most had incorrect knowledge or not sure (Declercq, Sakala, Corry, & Applebaum, 2007). Another survey of 1,318 Canadian nulliparous women was conducted to explore women’s knowledge about birth technology. According to the findings, nulliparous women were uncertain about the benefits and risks of common procedures used in birth (Tomkinson, Baradaran, Wendy, & Patricia McNiven, 2011). Adequate information is one requirement of informed decision making.
Knowledge is known to influence the birth choices of Taiwanese women (Chu et al., 2010). One descriptive study aimed to compare choice of birth mode among female physicians, female relatives of physicians, and women with a higher socioeconomic status in Taiwan. Female physicians and female relatives of physicians were significantly less likely to undergo a CD than other high socioeconomic status women. Female physicians and their relatives tended to have lower rates of CD, possibly because of their increased access to medical knowledge (Chou, Huang, & Lin, 2006). Female health professionals and their relatives were able to acquire sufficient information regarding various birth choices to help them to choose between alternatives.

2.2.2 Previous birth experience

Previous birth experience influences women to opt for VBAC. Two qualitative studies have been undertaken to understand women’s decisions related to previous birth experience. Farnsworth and Pearson (2007) interviewed 11 pregnant women who had had a previous CD. They found that women assessed relevant information from previous birthing experiences to make a birth decision. Vaginal birth was described by women as an uncertain process (Farnsworth & Pearson, 2007). A total of 13 Australian women who had a VBAC reported that their previous caesarean experience was unacceptable to them and resulted in an unexpected extended recovery. These experiences reinforced their desire for a subsequent vaginal birth (Godden, Hauck, Hardwick, & Bayes, 2012). A cross-sectional study of hospital births in one Australia state using population-based data from 1998–2006 involved a total of
53,455 women experiencing the next birth after a CD (Homer et al., 2011). Results indicated that women who have had a previous vaginal birth were almost three times more likely to have a vaginal birth compared with women who had not had a vaginal birth (Homer et al., 2011). Parous women often construct birth concepts from previous birthing experience and these affect their birth choices for subsequent pregnancies. Women who had positive experiences with vaginal birth had increased confidence in attempting VBAC, while a negative birth experience of CD reinforced women seeking VBAC.

Similarly a qualitative study using an explorative descriptive design and techniques was also conducted to explore birth expectations (Fenwick, Hauck, Downie, & Butt, 2005). A total of 202 Australian women who were pregnant or who had birthed within the previous 12 months were interviewed. Three themes reflecting a positive outlook on birth were identified: ‘owning and believing in birth as a natural event’; ‘satisfaction with the birth process and outcome’ and ‘involvement and participation in the birthing experience’. Two themes reflected ‘birth is a negative event’ and ‘birth is a medical event’ (Fenwick et al., 2005). Women who had positive outlook regarded birth as a natural process and they had more positive expectations about birth. This positive outlook helped women to encounter labour. Conversely, women who had a more negative outlook were fearful to have a trial of labour.

Fear of birth is related to previous birth experience. In Australia, a survey was conducted with 1, 400 women to examine fear of birth according to parity, gestational age, and obstetric history (Rouhe, Salmela-Aro, Halmesmaki, & Saisto,
2009). Of the parous women, 172/763 (22.5%) who had had one previous CD, had a higher score on fear than those who had not had a CD (Rouhe et al., 2009). In Norway, a population-based cohort study demonstrated that compared to primiparous women, multiparous women who wanted vaginal birth were more likely to be expecting more than one foetus; had a previous CD and had a previous negative birth experience (Kringeland, Daltveit, & Moller, 2010). A Swedish study, nulliparous women had a higher mean fear of birth score than multiparous women, but more multiparous women reported intense fear (Nieminin, Stephansson, & Ryding, 2009). Multiparous women had internalised previous unpleasing birth experiences into this pregnancy. In particular, a previous negative experience regarding CD increased women’s fear of CD and were more willing to have a trial of labour.

Social context also increased women’s fears of birth. Fisher, Hauck, and Fenwick (2006) used a qualitative approach to explore how social context impacts on women’s fears of birth. Women who were pregnant and/or who had birthed within the past 12 months were invited to participate. A total of 22 women who were identified as being fearful of birth, participated in in-depth interviews (Fisher et al., 2006). Findings included two main themes: prospective fear and retrospective fear. Prospective fear was identified as being both social and personal. The social dimensions were labelled as ‘fear of the unknown’, ‘horror stories’ and ‘general fear for the well-being of the baby’. Personal dimensions included the ‘fear of pain’, ‘losing control and disempowerment’ and ‘uniqueness of each birth’. Retrospective fear included ‘previous horror birth’ and ‘speed of birth’ (Fisher et al., 2006). In a medicalised environment for birth, women may
have an unpleasing or unsatisfactory birth that increases their fear for subsequent birth. Consequently, such a medication intervention may increase unnecessary CD.

2.2.3 Accessibility of information regarding birth

Pregnant women accessed information regarding birth from a variety of resources, including books and magazines, and the stories of mothers and sisters, women's own history, their friends, and professional discourses (Farnworth & Pearson, 2007; Fenwick et al., 2005; Renner et al., 2007; Soltani & Dickinson, 2005). However, health professionals did not provide sufficient and comprehensive information for women. According to a study, nearly half the women reported their dissatisfaction with information given by health professionals (48.6%) and a lack of time to ask health professionals questions (46.5%) (Lagan, Sinclair, & George, 2010). Obviously, health professionals neither provided relevant information consistent with women’s needs nor offered an opportunity for women to ask questions or clarify questions. Consequently, although women make a birth choice, they often regret or dissatisfied with their decision after birth.

More recently, the internet has played a significant part influencing pregnant women’s decision (Lagan et al., 2010). One recent study demonstrated that most women (97%) used search engines such as Google to access a large variety of pregnancy-related information and to use the internet for pregnancy-related social networking and support. Almost 94% of women used the internet to supplement
information provided by health professionals (Lagan et al., 2010). One review examined pregnant women’s use of the internet including published and unpublished evidence (Lagan, Sinclair, & Kernohan, 2006). A total of 16 published papers and two unpublished papers were retrieved that met the inclusion criteria. Findings revealed that most of the papers included in the review were descriptive and few studies were of a size and quality to enable findings to be generalised (Lagan et al., 2006). Although the internet provides a variety of birth-related information, the validity and reliability of information still remains questionable.

In Sweden, employing a descriptive, cross-sectional design, researchers used a waiting-room questionnaire to obtain information from pregnant women. A total of 182 women participated in the study, the response rate 85% (Larsson, 2009). Most women (91%) had access to the internet and (84%) of women used the internet to retrieve information in the early stages of pregnancy (Larsson, 2009). Most participants considered the information to be reliable. Women judged the trustworthiness of web-based information according to two criteria, if the facts were consistent with information from other sources and if references were provided (Larsson, 2009). Although the internet provides an easy way to access information, inconsistent and varying quality of information in variety of websites may confuse women’s judgement and affect birth choices.

2.2.4 Health professionals’ preferences and attitudes

Health professionals’ preferences and attitudes toward birth choice have been
shown to influence women’s decisions (Cox, 2011; Kamal et al., 2005; Klein et al., 2011; Wax, Cartin, Pinette, & Blackstone, 2005). In a United Kingdom based study, 25 health professionals consisting of 12 obstetricians and 13 midwives were interviewed to explore the views of health professionals on factors influencing RCD (Kamal et al., 2005). Most health professionals’ were concerned about the rising RCD rates and suggested that VBAC was preferred because it poses fewer risks to mother and child and allows better maternal functioning after birth (Kamal et al., 2005). Despite these findings, the study demonstrated that some health professionals did not support VBAC nor follow strict VBAC protocols because of the perceived substandard quality of evidence in this area, other external pressures and the contingent, unique and often unanticipated features of each case which were drivers of the decision-making process (Kamal et al., 2005).

Health professionals’ attitudes toward VBAC are influenced by several factors. Fear of liability is the main factor influencing health professionals’ decision to offer VBAC (Cox, 2011). In Florida, most obstetricians perceived VBAC as safe and acceptable, however, they may limit offering VBAC in practice because of legal liability concerns. Obstetricians and midwives carefully selected potential candidates to offer a trial of labour in an attempt to minimise legal risks (Cox, 2009, 2011). A recent survey was conducted to assess obstetricians’ opinions regarding VBAC. Of 774 obstetrician-gynaecologists, 458 completed and returned the survey for a response rate of 59%. The survey revealed that 52% of respondents indicated that the most common reasons for obstetricians in private practice declining the use of VBAC was maternal-foetal safety concerns associated with uterine rupture, followed by medico-legal liability concerns.
Other factors such as obstetricians with less than 10 years’ experience in obstetric practice, an obstetrician's previous involvement in the care of women with uterine rupture, and an obstetrician's previous involvement in CD-related medical malpractice litigation were associated with obstetricians willingness to offer VBAC (Wells, 2010). While study showed that risk of uterine rupture is 0.3% for all women and this baseline risk increased to 4.7 per 1,000 for women choosing VBAC (Guise et al., 2010), the evidence-base cannot convince health professionals to offer VBAC, instead, concerns about medical malpractice dominates obstetricians’ decisions.

A lack of confidence to manage emergency situations seems to challenge junior obstetricians so they were less motivated to offer VBAC. According to a large scale survey conducted in Canada, younger Canadian obstetricians were more concerned with the perineal and pelvic floor consequences of vaginal birth than older generation obstetricians (Klein et al., 2011). Thus, younger generations were less positive than the older generation about a range of approaches to reducing the CD rates. Compared to younger generation obstetricians, older generation obstetricians regarded CD as a solution to manage labour and birth problems (Klein et al., 2011). Younger obstetricians did not support vaginal birth and regarded CD as the best option to manage birth problem; they therefore performed or recommended women for CD.

Another survey study was to determine obstetricians’ attitudes and practices with respect to CDMR in Maine, United States (Wax et al., 2005). Seventy-eight of 110 (70.9%) obstetricians responded. Approximately one fifth of obstetricians
preferred a CD for themselves or their partners while four in five obstetricians
performed or were willing to perform CD based on patient choice as the sole
indication (Wax et al., 2005). Although Maine obstetricians were willing to
perform patient choice CD, few preferred this delivery mode for themselves or
their partners. Similar findings were also found in Taiwan. Female physicians and
their relatives tended to have lower rates of CD, possibly because of their
increased access to medical knowledge (Chou et al., 2006). Physicians preferred
vaginal birth for themselves or their partners or relatives because they perceived
of more benefits and fewer risks with vaginal birth than with CD. However, they
agreed with women’s request for a CD and may not explain relevant risks to
women.

2.2.5 Limitations of guideline and policy

Several hospitals restrict access to VBAC based on the capabilities of the
service and limitations of VBAC guidelines (Bujold, 2010). For example, in the
United States, the American College of Obstetricians and Gynaecologists (ACOG)
VBAC guideline (1999), stated that trial of labour should be performed only in
institutions equipped to respond to obstetric emergencies and in settings where
physicians are capable of performing emergency care and are immediately
available to respond (ACOG, 1999). However, the guideline did not accommodate
women’s desire for VBAC (Cox, 2009). A survey compared VBAC rates before
and after the 1999 policy was issued in Colorado, Montana, Oregon, and
Wisconsin. Results have shown that in the years following introduction of the
1999 policy, the availability of VBAC services significantly decreased, especially
among smaller or more isolated hospitals (Roberts, Deutchman, King, Fryer, & Miyoshi, 2007). In fact, only some institutions were able to comply with the requirements and therefore the policy restricted obstetricians’ and midwives’ ability to provide VBAC, particularly in community and rural hospitals (Cox, 2009, 2011). In 2010, ACOG amended the guidelines. The new guideline emphasized that although the availability of emergency CD facilities is preferred, but rural hospitals may offer VBAC without this capability. Women could accept increased levels of risk after being counselled about risks and management alternatives (ACOG, 2010; Leeman & King, 2011).

A policy was enacted in Peru contributing to high CD rates (Arrieta, 2011). One study aimed to test the hypothesis that the health reform enacted in Peru in 1997, increased the rate of CD in the private sector due to non-clinical factors (Arrieta, 2011). This study uses a repeated cross-section data from three rounds of the Demographic and Health Survey implemented in Peru in 1996, 2000 and 2004–2008. The final sample for estimation consisted of 18,616 live births. Results showed that CD rates in the private sector of Peru grew from 28% (1991–1999) to 53% (1999–2008) after the health reform. The author concluded that the health reform implemented in the private sector increased physician incentives to over-utilize CD. The reform consolidated and raised the market power of private health insurers, but it did not provide the mechanisms to regulate and disclose information of private providers. All these factors created the conditions for a fee-for-service that paid providers to perform more CD (Arrieta, 2011).
Taiwan has a similar policy to Peru, increasing women’s and obstetricians’ incentives to over-utilize RCD. NHI offers the coverage for women having a RCD without the need to have a TOL as long as they have had a previous CD. The financial coverage for RCD allows obstetricians and women to readily make a decision for RCD. To reduce CD rates, NIH also proposed several health policies in Taiwan. In 2003, to lower the CD rate, the Bureau of National Health Insurance (NHI) of Taiwan proposed a VBAC case payment to encourage physicians to perform VBAC with the equivalent payment as CD (Tsai, 2005). However, one study indicated that VBAC was affected significantly at the beginning because of incentive mechanisms such as policy implementation and encouragement with financial incentives, but it plateaued because of the potential risk of uterine rupture (Liu, Lin Jr, Su, Chang, & Cheng, 2013). Moreover, the NHI raised the payment for vaginal birth in May 2005, and also increased the insured woman’s co-payment for elective CD in May 2006. However, the financial incentives, designed specifically for obstetricians, had limited effect on CD rates (Hong & Linn, 2012; Lo, 2008).

2.2.6 Organizational maternal care

VBAC challenges maternal health care. One qualitative study using interviews explored the experience of 15 women who had had an unsuccessful VBAC. Fifteen women were interviewed. These women had attended a Western Australian midwifery-led service for their next birth after caesarean and laboured but were not successful in achieving a VBAC because of reasons around delayed progress (Kelly, Hauck, Bayes, & Hardwick, 2013). Some women reported that
they were unable to effectively self-advocate in a climate of power struggling and poor support, and the inflexibility of hospital processes. When labour did not progress as envisaged, hospital processes adversely affected how women were supported and women's doubts about being able to achieve a VBAC were reinforced with RCD (Kelly et al., 2013). Hospital and health professionals did not continue to support women to attempt VBAC when women did not progress well, resulting in women opting for RCD ultimately. A non-supportive organization in VBAC limits women to opt for VBAC.

Medicalisation of environments increase unnecessary CD (Slavin & Fenwick, 2012). In South East Queensland, Australia, a study aimed to identify the groups of women who are the largest contributors to the CD rate at a maternity facility (Slavin & Fenwick, 2012). A modified version of the Robson Ten Group Classification System identified as the most appropriate to determine CD rates in different groups of women was used in the study for a 6-month period in 2010. Results indicated that planned RCD was the largest contributor to the CD rate and RCD was followed by women who had an induction for their first baby (Slavin & Fenwick, 2012). Some women who had a primary CD for their first baby because of unsuccessful induction chose RCD for subsequent pregnancies.

Taiwan also appears to be over-medicalised in maternal care. According to Kuo (2005), during the intrapartum period, of 3,447 women, one in five women who were not over-term and did not have any labour signs underwent induction and 57% of the women were restricted to bed rest and 31.5 % of these women
underwent an induction (Kuo, 2005). An over-medicalised organisation may lead to women opting for a CD or RCD.

2.4 Informed decision-making in maternal care

Several countries have supported the right of every pregnant woman to make decisions based on accurate and comprehensible information (Goldberg, 2009). According to the ACOG position on informed decision-making, maternal care health professionals must understand women’s situations and use understandable language to provide them with adequate and accurate information regarding their pregnancy and options. Every woman must have the freedom to choose between alternatives, even if that choice goes against the provider's recommendation (ACOG, 2004). The act of informed decision-making refers to an individual making a health decision using relevant information about the risks and benefits of outcomes, in accordance with their preferences (Bekker et al., 1999; Jordan, Ellis, & Chambers, 2002; Lavis et al., 2005). There are many benefit of informed decision-making including an improved the patient-physician relationship by valuing patients’ preferences, experiences, and expectations (Coleman, 2004; Hicks, Spurgeon, & Barwell, 2003). In fact, research indicates that informed decision-making is associated with better physiological and psychological outcomes for women (Goldberg, 2009; Legare, Ratte, Gravel, & Graham, 2008).

The benefit of an informed decision-making approach for maternal care is that it allows women to become influential, well informed consumers. Couple involved in the decision-making process regarding the birth experience have
greater satisfaction with their birth (Coleman, 2004; Vlemmix et al., 2013). A commitment to informed decision-making by peak health organisations, the complexity of the decision to be made for example where the evidence for options is equivalent, and clinician’s being time poor, has led to the proliferation of decision support strategies such as decision aids.

Decision aids provides consumers with relevant risks and benefits information regarding mode of birth. These decisions aids have been administrated in clinical practice to assist pregnant women who have had a previous birth to make informed decisions about subsequent birth choice (Montgomery et al., 2007; Nassar et al., 2007; Shorten, Shorten, Keogh, West, & Morris, 2005). A systematic review of randomised controlled trials to examine the effects of decision aids on informed decision-making in pregnancy care showed that decision aids to promote and positively inform decision-making in pregnancy care significantly increase knowledge, decrease decisional conflict scores and decrease anxiety (Vlemmix et al., 2013). In fact, decision aids offer clinicians a validated format to present facts that surpasses conventional advice in terms of balance, accuracy, and consistency. Through decision aids, patients can contemplate their preferences, share the knowledge with their family, and return for another appointment for further discussion (Dugas et al., 2012; Woolf et al., 2005). These devices can ameliorate time constraints on offering alternatives, risks and benefits in clinical consultations.

Midwife-led models of care were also found to be helpful in facilitating informed choice about mode of birth (Soltani & Sandall, 2012). Midwife-led care
has been defined as care where the midwife is the lead professional in the planning, organisation and delivery of care given to a woman from initial booking to the postnatal period (RCOG, 2001). The philosophy underpinning a midwifery-led model understands pregnancy, labour and birth as normal physiological events (Gould, 2000). It has been argued that a midwife-led model of care provides high quality of care for childbearing women with decreased complications for mothers and babies, lower rates of intervention and a more positive birth experience when compared to other models of care (Homer et al., 2013).

A Cochrane review of midwife-led versus other models of care for childbearing women included 13 trials and 16,242 women (Sandall, Soltani, Gates, Shennan, & Devane, 2013). The reviewers determined that women who had midwife-led models of care were less likely to experience regional analgesia, episiotomy, and instrumental birth. Women in this systematic review were more likely to experience no intrapartum analgesia/anaesthesia, spontaneous vaginal birth, attendance at birth by a known midwife, and a longer mean length of labour (Sandall et al., 2013). Although there were no statistically significant differences between groups for CD, women who were randomised to receive midwife-led care were less likely to experience preterm birth and foetal loss before 24 weeks gestation (Sandall et al., 2013). Midwives provide continuous maternal care and monitor foetal conditions carefully helping to detect health problems either in foetus or in mothers.

Similarly, a randomised controlled trial was also conducted in Australia
recently (McLachlan et al., 2012). A total of 2314 low-risk pregnant women participated in the study where women randomized to caseload (primary midwife care) received antenatal, intrapartum and postpartum care from a primary midwife with some care by ‘back-up’ midwives. Women randomized to standard care received either midwifery or obstetric-trainee care with general practitioner care. Results showed that women allocated to caseload were less likely to have a CD; more likely to have a spontaneous vaginal birth; less likely to have epidural analgesia and less likely to have an episiotomy. Infants of women allocated to caseload were less likely to be admitted to special or neonatal intensive care (McLachlan et al., 2012). Compared to obstetricians, midwife-led care provides continuous supports and reduces unnecessary medication intervention. More importantly, midwives provide more time to discuss various choices with women in detail which helps women opt a vaginal birth.

2.5 Summary

Pregnant women who have had a previous CD have the right to be informed about various options regarding mode of birth in order to make a decision based on accurate and comprehensible information about the risks and benefits of the outcome. From the literature review, informed decision-making in current maternity practice appears limited and inconsistent. Several factors influence women’s decision-making including women’s knowledge, previous birth experience, accessibility of information regarding birth, health professionals’ preference and attitudes, limitations of polices and model of maternal care. Midwife-led care and multifaceted supports using decision aids may improve
decision-making. The next chapter presents theoretical approaches used in the design of the research.
Chapter Three

Theoretical approach
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CHAPTER THREE: THEORETICAL APPROACH

3.0 Introduction

This chapter introduces the theories that were used to guide the study. Three theories, Theory of Planned Behaviour, Cultural Theory and Shared Decision-Making are introduced and their use with the research is justified.

3.1 Theory of Planned Behaviour

The theory of planned behaviour (TPB)(Ajzen, 1985, 1991) was originally developed from the Theory of Reasoned Action (TRA). TRA was based on Expectancy-Value Theory, according to which human behaviour is rationally guided by logical thought processes (Ajzen, 1988; Fishbein & Ajzen, 1975; Fishbein & Ajzen, 1980). According to the TRA, individual intention determines a specific behaviour which is influenced by two constructs, attitudes toward behaviour and subjective norms. The assumption of TRA is grounded in the concept that most behaviours are under the volitional control (Fishbein & Ajzen, 1975; Fishbein & Ajzen, 1980). In 1991, Ajzen added a construct of perceived behavioural control, to the Theory of Reasoned Action, and renamed it the Theory of Planned Behaviour(Ajzen, 1991)(Figure 3-1)

TPB provides a powerful and predictive model for explaining human behaviour (Armitage & Conner, 2001), and has been proven to be a useful theoretical framework to predict health-related behaviour (Conner & Sparks, 2005;
Godin, Bélanger-Gravel, Eccles, & Grimshaw, 2008; Krones et al., 2010; Moeini, Besharati, Hazavehei, & Moghimbeigi, 2011; Tolma, Reininger, Evans, & Ureda, 2006; Walker, Watson, Grimshaw, & Bond, 2004; Williams, Povey, & White, 2008). Behavioural intentions are defined as an individual’s willingness to perform a specific behaviour (Ajzen, 1991; Fishbein & Ajzen, 1975; Fishbein & Ajzen, 1980). The TPB includes three psychometric determinants influencing human behavioural intentions (Ajzen, 1991, 2002) (see figure 3-1). These determinants are attitudes towards a behaviour, subjective norms and perceived behavioural control (PBC) (Ajzen, 1991; Fishbein & Ajzen, 1975; Fishbein & Ajzen, 1980). PBC is the degree of control over a behaviour that individuals’ possess; the ease or difficulty individuals identify with performing the behaviour of interest.

Figure 3-1 Theory of Planned Behaviour constructs (Ajzen, 2005)
Attitude towards behaviour refers to an individual’s belief regarding overall evaluation of performing the behaviour (Fishbein & Ajzen, 1975; Fishbein & Ajzen, 1980). The outcome of the evaluation of performing the behaviour consists of positive or negative beliefs where an individual will intend to perform certain behaviours when the evaluation is positive (Fishbein & Ajzen, 1975; Fishbein & Ajzen, 1980).

Subjective norms refers to normative beliefs, where an individual perceives social influence or the pressure of significant others regarding performing the behaviour (Fishbein & Ajzen, 1975). Examples of significant others may include a person's partner, close friends or physician. Whether individuals follow social norms depends on their motivation (Fishbein & Ajzen, 1980).

PBC also influences an individual’s intentions and actions (Ajzen, 1991) and can directly influence behaviour (Ajzen, 2005; Ajzen & Albarracín, 2007). PBC beliefs can be divided into two categories: (a) internal factors, such as acquisition of information, skills and abilities, as well as emotions and compulsions, and (b) external factors, that is, situational and environmental factors external to the individual (Tolma et al., 2006). The more resources and opportunities available, the greater the individual’s PBC over behaviour (Tolma et al., 2006). PBC is presumed to not only affect actual behaviour directly, but also to affect it indirectly through behavioural intention (Ajzen & Madden, 1986). Predicting behaviour directly occurs only when PBC reflects actual control with some degree of accuracy (Ajzen, 1988) (see Figure 3-1, the arrow indicates PBC influencing...
behaviours directly). Self-efficacy is a key concept of PBC referring to the confidence to perform a behaviour (Ajzen, 2002). In 1977, Bandura proposed Self-Efficacy Theory that espouses the conviction that one can successfully execute the behaviour required to overcome the barriers to achieve a specific outcome (Bandura, 1977).

A systematic review of 185 quantitative studies examined the efficacy of the theory and TPB accounted for 27% and 39% of the variance in behaviour and intention, respectively (Armitage & Conner, 2001). The PBC construct accounted for a significant amount of variance in intention and behaviour, while the subjective norm construct was found to be a weak predictor of intentions (Armitage & Conner, 2001). In recent years, several quantitative studies grounded in the TPB framework have found that was a strong predictor of health-related behaviour (Conner & Sparks, 2005; Krones et al., 2010; Moeini et al., 2011; Tolma et al., 2006; Walker et al., 2004; Williams et al., 2008). These studies show that the TPB is a useful theoretical framework to explain different health behaviours.

There are three reasons, the TPB was selected as a theoretical framework to understand pregnant women’s and obstetricians’ decision-making processes and related influences regarding mode of birth. Firstly, the TPB describes predictors of behaviours and helps explain human social behaviour (Ajzen, 1991), which are important for interpreting women's intentions to adhere to their decisions (Krones et al., 2010). Secondly, the TPB framework assists in discerning the reasons underpinning why individuals’ decisions are made and also assists to understand individual’s actions by combining their intentions
Thesis Chapter Three: Theoretical Approach

3.1 TPB

regarding mode of birth. For example, the TPB may provide an understanding for pregnant women’s and obstetricians’ intentions regarding mode of birth. Thirdly, the TPB provides an understanding of the cultural perspectives influencing behaviours (Poss, 2001). In Taiwan, the decision-making of pregnant women and obstetricians regarding mode of birth needs to consider the volitional control factors as well as hospital environmental and Chinese cultural factors. TPB assists in deciphering the influence of ‘significant others’ in understanding individual behaviour.

Although subjective norms are culturally-informed perspectives influencing social behaviours, the theory does not effectively tap into the complexity of social context (Dutta-Bergman, 2005). In particular, while decision-making regarding mode of birth involves risk assessment of uterine rupture, this decision-making occurs within a specific social context (the hospital setting in Taiwanese society). Subjective norms of TPB cannot fully explain the decision-making processes occurring in the context of complex local and cultural influences. Therefore, Cultural Theory was chosen to complement and compensate for limitations of TPB.

3.2 Cultural Theory

Cultural Theory was developed by anthropologist Mary Douglas and political scientist Aaron Wildavsky in 1982 (Douglas & Wildavsky, 1982). The theory supports the interpretation of how individuals perceive and act according to the society around them (Oltedal, Moen, Klempe, & Rundmo, 2004). It helps
in understanding the social construction of risk through a processes of value identification and trust establishment (Tansey & O’riordan, 1999). Cultural Theory was originally applied to interpret the action of individuals in their environments; since then the theory has been widely applied in politics, public policy, economics and education (Jenkins-Smith, Silva, Gupta, & Ripberger, 2014; Kahan, 2012; Laitin & Wildavsky, 1988; Swedlow, 2002; Wildavsky, 1985).

Researchers have used Cultural Theory with interventions designed to explain human behaviours in different organisations. For example, Limwudhikraijirath (2010) used Cultural Theory to interpret students' and instructors' preferences regarding computer assisted instruction in a Thai university (Limwudhikraijirath, 2010). Chitapong (2005) employed the theory to examine teachers’ attitudes toward professional development programs in two schools in Thailand (Chitapong, 2005). These two studies showed that Cultural Theory offered a useful framework to explain similarities and differences in various settings (Chitapong, 2005; Limwudhikraijirath, 2010). In 2009, a large quantitative study was conducted to test the application of Cultural Theory in different countries (Chai, Liu, & Kim, 2009). They established individual-level indices from the World Values Survey to compare attitudes and beliefs among people in different countries. The results demonstrated that Cultural Theory was significantly related to a society’s socioeconomic conditions and geographic location (Chai et al., 2009).

Risk perception is a critical concept of Cultural Theory. Risk perception
explains how people identify and evaluate the danger of potential hazards (Wildavsky & Dake, 1990). Risk represents a probability estimate that individuals will encounter danger, and encompasses both the probability for and the consequences of a negative event (Brun, 1994). According to Mary Douglas’ description, risk perception is not governed by personality traits, needs, preferences, or properties of the risk objects. Instead, risk is a socially, or culturally constructed phenomenon (Douglas & Wildavsky, 1982). Individuals perceive risk and take an action through interaction with others and cultural adherence (Douglas, 1978; Douglas & Wildavsky, 1982; Oltedal et al., 2004; Thompson, Ellis, & Wildavsky, 1990). Cultural Theory concerns expertise, scientific integrity, professional reliability and integrity, and the credibility of health-related messages; all are influenced by the context in which judgments are made (Tansey & O’riordan, 1999).

Cultural Theory Typology

Douglas (1978) conceptualised cultural context as four categories. A typology with two dimensions of grid and groups was used, representing four types of cultural diversity in different social contexts (Douglas, 1978). The map of culture is designed to help explain individual preferences within the cultural context of a particular setting (Figure 3-2).
Two dimensions- grid and groups

Grid dimension refers the degree to which an organisation imposes on individuals’ choices (see figure 3-2), based on social constraint such as rules, role expectations, and the responsibility to maintain a hierarchical context (Harris, 1995). Grid dimension has different degrees of social control; on the top of the strong-grid axis, social control strongly limits an individual’s choice because of institutionalised classifications (Douglas & Wildavsky, 1982). On the bottom of the weak grid axis, each person has more autonomy to be free to choose their preference (Douglas & Wildavsky, 1982). Douglas described the weak-grid as a more open, competitive environment that gives individuals more options to choose their own partners (Douglas & Wildavsky, 1982) (Figure 3-3).
Group dimension refers to the extent to which an individual is incorporated into bounded units. The greater the incorporation, the more individual choice is subject to group determination (Thompson et al., 1990). On the strong end of the group axis, individuals have a strong connection to the organisation. People see their relationship with the organisation as of greater importance than individual preference so that any decision made by an individual is based on their relationship within the organisation (Harris, 2005). Conversely, on the weak end of the group axis, because individuals are less committed to the organisation, individual preferences are the priority over collective arrangements (Harris, 2005) (Figure 3-4).
Figure 3-4 Group dimension of cultural theory, adopted from Harris (2005)

<table>
<thead>
<tr>
<th>Weak-Group</th>
<th>Strong-Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ Weak allegiance</td>
<td>➢ Strong allegiance</td>
</tr>
<tr>
<td>➢ Minimal pressure to consider group goals and activities</td>
<td>➢ Strong pressure to consider group goals and activities</td>
</tr>
<tr>
<td>➢ Minimal social incorporation</td>
<td>➢ Strong social incorporation</td>
</tr>
<tr>
<td>➢ Individual’s interests prioritised over the group</td>
<td>➢ Group’s interests prioritised over the individual</td>
</tr>
</tbody>
</table>

Generally, individuals in the lower section of the low grid tend to pursue innovation and are not afraid to take risks, while individuals in the high grid display routine, patterned behaviour and avoid risk (Chai et al., 2009). Compared to people in the lower section of the grid who may be more self-determinant regarding decisions, people in the lower section of the high group tend to obey their group decision and regard group perspectives as more important than themselves (Chai et al., 2009).

The two axes of grid and group are split into four quadrants, representing four types of cultural context. Cultural Theory holds that systematic individual differences exist in the perception of environmental risks based on four different social contexts (Sjöberg, 1996).
The four categories of life aim to describe the relationship of social constraints in complex interactions between individuals within organisations (Chitapong, 2005). Category A, the lower left quadrant of Figure 3-5, represents **individualists**, characterised by low group and grid. In this cultural context, individuals have more autonomy to choose their preference (Sjöberg, Moen, & Rundmo, 2004). In this type of social context, individuals encounter fewer constraints and have a wide scope forging network connections freely (Caulkins, 1999). Category B, the upper left quadrant of Figure 3-5, represents **fatalists**, characterised by high grid and low group. In this social environment, individuals are constrained by exterior social forces; blame is put on fate (Caulkins, 1999). Fatalists try not to know or worry about things that they
cannot do anything about (Olteadal et al., 2004). Because of unwillingness to plan ahead and inertia, fatalists are vulnerable in certain situations (Mamadouh, 1999). Category C, **Hierarchists**, displayed in the upper right quadrant of Figure 3-5 represents high grid and high group. Hierarchical cultures address the order of the society and have a great deal of faith in expert knowledge (Sjöberg et al., 2004). Hierarchists accept risk as long as decisions are justified by the organisation or experts (Olteadal et al., 2004). Thus, the individual is vulnerable to misplaced trust in authority and expertise (Mamadouh, 1999). Category D, the lower right quadrant of Figure 3-5, represents **enclavists**, characterised by high group and low grid. Individuals in this culture tend to be sceptical about expert knowledge because these experts and institutions may misuse their authority (Olteadal et al., 2004). Enclavists emphasise the importance of fairness, which they see it as the result of equality and blame unfairness on the system (Sjöberg et al., 2004).

There are three reasons for choosing Cultural Theory as a theoretical framework to inform the present study. Firstly, grid and group typology focusing on analysing an individual’s preferences assists in understanding the choices of pregnant women and obstetricians regarding mode of birth. Secondly, Cultural Theory classifies different types of cultures based upon levels of individual autonomy. Decision-making regarding mode of birth refers to women’s autonomy to decide mode of birth. However, some pregnant women may not intend to make decisions by themselves. Cultural Theory assists in explaining women’s autonomy regarding birth choice in their cultural context. Thirdly, Cultural Theory addresses risk perception with an aim to understand
why different people and social groups fear different risks. This is particularly helpful to understand how the risk factor of uterine rupture influences the decisions of women and obstetricians.

3.3 Shared Decision-Making

Shared decision-making (SDM) is patient-centred communication to result in improved quality and safety in health care (Godolphin, 2009). SDM fosters patient-centred care by supporting patients in making various choices in health care (Stacey, Légaré, Pouliot, Kryworuchko, & Dunn, 2010). SDM is an interactive process that aims to achieve health care choices which are agreed upon by patients and their practitioners (Stacey et al., 2010). SDM takes patient’s values and preferences into account, it is also based on the health professional presenting the risks and benefits of all available options, including the option of taking no action (Légaré et al., 2012).

Compared to the traditional paternalistic model of decision making, SDM emphasizes that the patient is active in his/her decision making involvement, information exchange, and expressing treatment preferences (Murray, Charles, & Gafni, 2006). The traditional paternalistic model of decision making is based on the premise that the obstetrician knows best and by taking the lead on decisions could reduce anxiety and risk for the mother and her baby (Kalish, McCullough, & Chervenak, 2006). Within a SDM, patients and clinicians share their knowledge and experience so that an agreement about health decisions can be made (Joosten et al., 2008; Jordan et al., 2002).
SDM comprises four characteristics: (1) Partnership: SDM involves at least two participants, the clinician and patient. They share all stages of the decision-making process simultaneously (2) Participation: Both participants take steps to participate in the process of treatment (3) Information sharing: There is a two-way exchange of information on medical information and the patient’s relevant personal information. The patient is an informed decision maker. (4) A preferred treatment agreement is made (Charles, Gafni, & Whelan, 1997, pp. 685-688). SDM may involve a team of health professionals, significant others (partners, family) and may differ across cultural, social and age groups (Godolphin, 2009).

SDM is potentially helpful to: a) reduce overuse of options not clearly associated with benefits for all; b) enhance the use of options clearly associated with benefits for the vast majority; c) reduce unwarranted health care practice variations; d) foster the sustainability of the health care system; and e) promote the rights of patients to be involved in decisions concerning their health (Legare et al., 2010, pp. 3-4). However, the influence of paternalistic decision-making still remains; resulting in a gap between the desired SDM and actual practice (Godolphin, 2009).

In a systematic review the barriers and facilitators to implement SDM in clinical practice were examined (Gravel, Legare, & Graham, 2006). Thirty-one publications covering 28 studies were included and most of the studies used qualitative methods exclusively (18/28). A total of 2,784 (89%) participants were physicians. The results showed that time constraints were the most
frequently cited barrier to implementing SMD in clinical practice. A perceived lack of applicability of SDM due to characteristics of patients and due to the clinical situation was the second and third most frequently cite (Gravel et al., 2006).

A Cochrane systematic review examined the effectiveness of interventions to improve health care professionals’ adoption of SDM (Legare et al., 2010). Five studies with RCTs were included. The results did not allow authors to draw firm conclusions regarding the types of interventions that were most effective for increasing healthcare professionals’ adoption of SDM but suggested that training health professionals and developing patient-mediated interventions, such as decision aids, are important in implementing SDM (Legare et al., 2010). Godolphin (2009) also indicated that SDM may increase the time required for consultations. However, studies have in consistently shown that superior communication is achieved with longer time consultations. Communication skill was the main source of achieving a successful SDM (Godolphin, 2009).

Choosing SDM as a conceptual framework helps explain how Taiwanese obstetricians discuss birth choices and share information with pregnant women as obstetricians have dominated maternal care for over two decades in Taiwan. Most importantly, SDM helps explain how obstetricians value women’s ability and engage with women to make decisions. SDM takes patient’s preferences and values into account and this provides insights into pregnant women’s preferences regarding mode of birth. The main concept of SDM is based on the
patient as an informed decision maker with clinicians having an obligation to inform patients regarding treatment options, including the risks and benefits, advantages and disadvantages of each option. Finally, SDM stresses a participant’s autonomy and respect for the decisions. SDM as a conceptual framework is helpful to understand women’s rights to be informed and included in the decision making regarding mode of birth areas, that are not emphasized with TPB and Cultural Theory.

3.4 Summary

The theoretical basis for this study drew upon multiple theories. Each offered attributes that were used in the design of the study and later used in the analysis of findings. Three theories of Theory the Planned Behaviour, Cultural Theory and Shared Decision-Making, were chosen to guide this research in interpreting decision-making regarding mode of birth following a primary CD. This chapter has provided an overview of these theories and highlighted their relevance to the aims of this research. The research methods are described in the next chapter.
Chapter Four

Methods
Thesis Chapter Four: Methods

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CHAPTER FOUR: METHODS

4.0 Introduction

This chapter describes the methods used to address the research questions. Research methods, including the design, setting, sample, data collection and procedures used in the study are described. The data analysis approaches, including thematic analysis and constant comparative technique, are then presented. Lastly, the ethical considerations are presented in the final section of this chapter.

4.1 Research design

A qualitative approach was used to conduct this study. The aim of this study was to explore the decision-making processes and influences on mode of birth choices following a primary CD in Taiwan. The rationale for using a qualitative approach included:

- Qualitative research approaches adopt a person-centred and holistic perspective to develop an understanding of human experience (Holloway, 1996), which is important for studying communication and interaction (Burns & Grove, 1997). Decision-making regarding mode of birth choice is a dynamic interactive process, involving pregnant women and obstetricians within the hospital environment, in the context of the Taiwanese culture. Explanations of such a complex process are suited to exploration using
Qualitative research is especially useful when little is known about the area of study and the particular problem, setting or situation, because it uncovers processes that occur beyond surface appearances (Burns & Grove, 1997). Taiwanese obstetricians have dominated maternal care for over two decades; however, there is a paucity of research exploring how obstetricians influence women’s birth choices. Additionally, a number of quantitative studies have been conducted to examine factors related to CD in Taiwan but research to explore decision-making surrounding mode of birth in Taiwanese women who have had a previous CD has not been undertaken.

Qualitative approaches focus on individuals within their social and cultural context (Holloway, 1996). The cultural context in Taiwan was expected to be a critical factor influencing decision-making (Fui, Xirasagar, Liu, & Probst, 2010), however, how such social and cultural factors influence women’s and obstetricians’ decision-making was still poorly understood. Using a qualitative methodology, the researcher sought to understand the influences on decision-making about mode of birth in Taiwanese women, including the influence of Taiwanese social and cultural contexts on the decisions made.

The research design comprised two phases (Figure 4-1). Phase I explored Taiwanese obstetricians’ decision-making regarding women’s mode of birth following a primary CD. Phase II encompassed three stages, Stage 1 consisted of naturalistic observation of obstetric consultations to understand the decision-making between obstetricians and pregnant women within the hospital.
environment and to understand how obstetricians assisted women to make their birth choices following a primary CD. Phase II, Stage 2 involved interviews with pregnant women who had experienced a CD in a previous pregnancy in order to explore their perceptions of the influences on their preferences for mode of birth. Phase II, Stage 3 consisted of interviews with postnatal women to reflect on their choices, the influences on their decisions regarding mode of birth, and the relationship between their decisions and the actual birth mode outcome. Figure 4.1 illustrates the Phases and Stages of the study design.

### Figure 4- 1 Research design

#### 4.2 Research setting

The study was conducted in a private hospital in Taiwan. The hospital was a tertiary teaching hospital with seven branches which served 20,000 outpatients per day, island-wide in 2011. Based on geographical accessibility, the northern branch, providing the largest number of beds for middle and northern Taiwan, was
selected. The Department of Obstetrics and Gynaecology is divided into five departments and the number of obstetricians as: the Obstetric Department (9); Reproductive Endocrinology Department (8); Gynaecologic Cancer Department (10); Gynaecologic Endoscope Department (7); and Women's Urologic Department (5). From 2008 to 2012, there were between 350-450 births per month at this hospital, and the CD rate varied between 34% and 38%, consistent with Taiwan’s overall CD rates (Health Promotion Administration, 2012).

4.3 Research sample

The quality of research is contingent upon the appropriateness and adequacy of the sample (Morse, 1991). Appropriateness means that the method of sampling fits the aim of the study and assists in understanding the research question. A sampling strategy is adequate if it generates adequate and relevant information and sufficient quality data (Burns & Grove, 1997). Theoretical sampling was used to ensure the appropriateness and adequacy of the sample. Theoretical sampling refers to the collection of data until saturation is reached (Morse & Field, 1995). Sampling continues until repetition of information is achieved and confirmation of previously collected data is attained (Morse, 1994). The key question for theoretical sampling is: To what group or subgroups does the researcher turn to next to collect data? Subsequent sampling decisions should be purposeful and relevant (Glaser & Strauss, 1967). Therefore, the decision about what data are required next needs to be based on the analytical findings at the time. Rather than sampling using representative population characteristics, theoretical sampling is based on the informants’ knowledge (Morse, 1991). Unlike sampling approaches
that are planned in advance, theoretical sampling continues throughout the study and is not planned before the study starts (Holloway, 1996). A theoretical sampling approach was used in this study to enable collection of data until the point of data saturation. This approach was taken to ensure that the researcher captured rich and complete data.

4.4 Data collection

To acquire in-depth data, multiple methods were employed including in-depth interviews, observation, as well as field notes.

*Individual in-depth interviews*

Interviews were the main method for data collection. Interviews seek to describe the meaning of central themes in the life of the subjects. The main task in interviewing is to understand the meaning of the interviewees (Kvale, 1996). Interviews are particularly useful for obtaining the story behind a participant’s experiences. The interviewer pursues in-depth information around the topic (McNamara, 1999). Unlike a survey approach, the interviewer has the opportunity to probe or seek clarification from participants. Therefore, personal interviews, conducted in private and treated confidentially, allow participants to articulate their thoughts and reflections freely (Morse, 1991). Interviews with obstetricians occurred once, at the beginning of the study, while women were interviewed twice, once before birth and once afterwards. Only one formal interview was scheduled for obstetricians because sufficient details about obstetricians’ views were obtained in one interview. Two interviews of women were conducted to elicit their
perspectives, preferences regarding birth choice before and delivery reflections afterwards.

Participants gave permission to audio-record the interviews prior to commencement of interviews. One key question was used to commence each interview in order to explore participant’s values, beliefs and intentions. Using an iterative approach, data obtained from each interview guided the content of the next interview. Therefore, the sequence of questions differed for every participant and depended on the information shared during the interview (Denzin & Lincoln, 2011). A semi-structured interview guide was used for the interview to cover key issues for obstetrician and pregnant women participants (Appendices 3 and 4). In addition, the researcher adopted several interview skills, such as prompts, probes and non-verbal feedback, to focus on key issues and elicit more detailed explanations (Smith, Chen, & Liu, 2008).

The entire interview was transcribed verbatim from the digital audio-recording as soon as was practicable after the interview. Participant’s facial expressions, gestures, reactions and comments during the interview were also noted. A research assistant transcribed the interview word-by-word in Chinese, after signing a contract related to data confidentiality. Once the interviews were transcribed, the researcher verified the transcripts by listening to the recording repeatedly. All vocal sounds and field notes from the original interview, including pauses and sighs, were noted and transcribed. The transcript was analysed using a unique study number and a line number such as “03-11”, referring to participant
no. 3 and line 11, to help locate text. Two bilingual teachers who were Chinese
and had master degree assisted the researcher to translate interviews from Chinese
to English. After the interviews were translated, the researcher read the transcripts
repeatedly to verify the accuracy and completeness of each document.

*Observational study*

Observation refers to gathering firsthand information in a naturally occurring
situation (Silverman, 2011). The aim of observation is to seek detailed knowledge
of the multiple dimensions of life within the natural setting and to understand
participants’ taken-for-granted meanings and rules from the perspective of those
being observed (Charm, 2006). Compared to other methods of data collection,
observation involves collection of data in a natural setting; capturing the social
reality of the people observed (Holloway, 1996). Decision-making processes
regarding mode of birth occurred during consultations in the Outpatient
Department of Obstetrics and Gynaecology units. Observation of interactions
between obstetricians and pregnant women in the natural setting of the Outpatient
Department of Obstetrics and Gynaecology enabled the capture of real-life
decision-making processes regarding mode of birth.

Naturalistic observation of consultations between the obstetricians and
pregnant women (Phase II, Stage 1) occurred following the completion of the
obstetricians’ interviews (Phase I). Non-participant observation (the complete
observer) was used in order to avoid influencing participants’ decisions and to
provide an objective perspective (Flick, 2009). Instead of covert observation,
where participants are unaware of being under observation, overt observation was
used to study naturally occurring behaviour of participants. Prior to observation, each participant was invited to participate and informed about how they would be observed and the purpose behind the observation. Interested participants provided written consent for observation of the consultation.

Field notes were collected during the observation episodes and were used to record the activities of participants during the Outpatient Department of Obstetrics and Gynaecology consultation. Field notes are the process of transformation of observed interaction to written public communication. Field notes consisted of descriptions of social interactions and the context in which they occurred (Roper & Shapira, 2000). These activities included the interactions that took place, what was actually stated, the researcher’s own feelings, thoughts about and reactions to what had taken place, and insights gleaned through researcher’s reflections after observation (Jirojwong, Johnson, & Welch, 2011).

4.5 Procedures

Ethics approval was obtained from the Human Research Ethics Committee of Deakin University and the recruitment hospital in Taiwan before the study commenced (Appendices 1 and 2). As part of the approval process, a strong level of management support was obtained from the chairman of the Department of Obstetrics who approved access to recruit participants and provided formal permission to undertake the study.
4.5.1 Phase I - Interviewing obstetricians

Criteria of participant selection

Participants who were willing to share opinions, values and beliefs were eligible to participate (Morse, 1991). In this study participants expressed an interest on an ‘opt in’ basis. Inclusion criteria included obstetricians who: (1) had graduated from medical school at a university; (2) were fluent in Mandarin or English; (3) were currently licensed to practice in northern Taiwan; and (4) had been working at the Department of Obstetrics and Gynaecology for over two years. Exclusion criteria included obstetricians: (1) who were working temporarily at the hospital; (2) who had been transferred from another branch.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>* graduated from medical school at a university</td>
<td>To practice as an obstetrician, medical practitioners need to have graduated from a medical school.</td>
</tr>
<tr>
<td>* fluent in Mandarin or English</td>
<td>The researcher is fluent in Mandarin and English and therefore the in-depth interviews could be conducted in either of these languages</td>
</tr>
<tr>
<td>* currently licensed to practice in northern Taiwan</td>
<td>To ensure individual participants were legally licensed to practice as obstetricians in northern Taiwan.</td>
</tr>
<tr>
<td>* working at the Department of Obstetrics and Gynaecology for over two years.</td>
<td>To ensure the individual obstetrician participants were familiar with the Department of Obstetrics and Gynaecology and could therefore comment on the hospital context.</td>
</tr>
<tr>
<td>Exclusion criteria</td>
<td></td>
</tr>
<tr>
<td>* working temporarily at the hospital</td>
<td>Obstetricians lacked experience in the medical centre context and therefore had limited capacity to comment on the practices within the organisation</td>
</tr>
<tr>
<td>* transferred from another branch.</td>
<td>Obstetricians lacked familiarity with the medical centre and therefore had limited capacity to share their experiences.</td>
</tr>
</tbody>
</table>
Accessibility and recruitment process

During Phase I, all obstetricians working at the Department of Obstetrics were invited to participate in the study. The secretary of the Department of Obstetrics and Gynaecology sent an e-mail invitation on behalf of the researchers to invite obstetricians who were interested in participating in the study. The e-mail (Appendix 5) explained the research aims and methods including participation requirements. After a week, the secretary confirmed potential participant’s willingness to participate and scheduled interview times. After obtaining confirmation and interview times from the secretary, an in-depth interview was conducted with the consenting obstetricians. The face-to-face interviews were held in the conference room of the Department of Obstetrics and Gynaecology. A semi-structured interview commenced with one key question, “Could you tell me in your opinion what influences the caesarean delivery rate in Taiwan?” to guide the interview (Appendix 3). The time limit for each interview was 30-40 minutes. Data were collected between July 2012 and December 2012.

4.2.2 Phase II – Observation and interviews of women

Stage 1: Naturalistic observation

Criteria of participant selection

Pregnant women who had had a previous CD were eligible to be included in the study. The inclusion criteria were: (1) 30-32 weeks gestation (2) women who had experienced a previous CD; (3) aged 18-45 years; and (4) fluent in Mandarin or English. Exclusion criteria were women with: (1) a multiple pregnancy; (2) a
previous classic CD or myomectomy; and/or (3) high-risk pregnancies (for example, women who had risk factors such as threatened premature labour, hypertension, heart disease, diabetes, epilepsy, or another pre-existing medical problem).

**Table 4-2 Rationale and criteria of pregnant women participants**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inclusion criteria</strong></td>
<td></td>
</tr>
<tr>
<td>· 30-32 weeks gestation</td>
<td>Women with low risk of perinatal mortality were more likely to be able participate in the study to completion.</td>
</tr>
<tr>
<td>· women who had experienced a previous CD</td>
<td>The purpose of the study was to explore women’s decision-making about a repeat caesarean.</td>
</tr>
<tr>
<td>· aged 18-45 years</td>
<td>Pregnant women of less than 18 years of age or over 45 years of age have a higher probability of maternal and neonatal morbidity and mortality.</td>
</tr>
<tr>
<td>· fluent in Mandarin or English</td>
<td>The researcher is fluent in Mandarin and English and therefore the interviews could be conducted in either language.</td>
</tr>
<tr>
<td><strong>Exclusion criteria</strong></td>
<td></td>
</tr>
<tr>
<td>· women who had experienced a previous VBAC</td>
<td>Women who had experienced a previous VBAC would usually considered for a VBAC and therefore were not recruited for the study.</td>
</tr>
<tr>
<td>· a multiple pregnancy</td>
<td>Multiple pregnancies would usually be considered for RCD.</td>
</tr>
<tr>
<td>· a previous classic CD or myomectomy</td>
<td>Existence of a vertical scar or a previous abdominal scarr increased the probability of uterine rupture. Women with such scars would not be considered for vaginal birth.</td>
</tr>
<tr>
<td>· high-risk pregnancies</td>
<td>High-risk pregnancies are associated with increased risk of maternal and neonatal morbidity and mortality.</td>
</tr>
</tbody>
</table>
Non-participant Observation

Obstetricians and pregnant women who agreed to participate in the study were observed during a consultation. The researcher invited eligible women to participate in the study when they went to the registration counter for their prenatal examination such as routine urinalysis for glucose and protein. Pregnant women who were willing to participate in the study signed a written consent form when they fully understood the research aims and procedures. After obtaining verbal consent from the respective obstetricians, the consultation was observed in the Outpatient Department of Obstetrics and Gynaecology at the 33-34 week gestation visit. Interactions between the obstetrician and the pregnant woman were observed and field notes were recorded. A prenatal interview with the woman was then scheduled to coincide with the woman’s next visit to the obstetrician.

Stage 2: Interviewing pregnant women

Access and recruitment process

The formal interview was held at 35-37 weeks gestation when the women visited their obstetrician. Written consent, including consent to an audio-recorded interview, observation and postnatal interview, was provided by the women prior to the interview. The waiting room of the Outpatient Department of Obstetrics and Gynaecology was used to conduct the interview while the women waited for their obstetrician appointment. Interviews commenced with a key question, “Could you tell me what is your birth plan regarding mode of birth?” (Appendix 4). The time frame for each interview was 10-20 minutes in length.
Stage 3: Interviewing postnatal women

*Access and recruitment process*

Approximately one month after birth, a mobile text message requesting a postnatal interview was issued to the women to confirm their intention to participate in the interview, following the provision (before the birth of the child) of a signed consent for the postnatal interview. Based on the researcher’s previous study experiences where postnatal women declined to be interviewed in their home because of the inconvenience, the face-to-face interviews were conducted in the waiting room of the Outpatient Department of Obstetrics and Gynaecology or the Neonatal Department after the postnatal women attended their regular follow-up postnatal appointment. The key opening question, “Could you tell me what influenced your decision about mode of birth?” guided the conversation (Appendix 4). The time limit for each interview was 30-40 minutes in length. Recruitment and data collection points are depicted in Figure 4-2.
An in-depth interview was scheduled with the consenting obstetricians.

The researcher invited eligible women to participate in the study when they went to the registration counter for prenatal examination.

Pregnant women signed a formal consent at 30-32 weeks gestation.

The secretary of the Department of Obstetrics and Gynaecology sent an invitation e-mail on behalf of the researcher to invite all obstetricians.

Ethics approval was obtained from Deakin University and Taiwan.

Formal permission was obtained from the chairman of the Department of Obstetrics.

Observation of prenatal visits at 33-34 weeks gestation.

A formal interview with pregnant women at 35-37 weeks gestation.

One month after birth.

A mobile text message requesting a postnatal interview.

A formal interview with postnatal women.

Figure 4-2 Flow diagram of the recruitment procedure
4.6 Data analysis

The comparative analytic method (CCM) of Grounded Theory with thematic analysis was employed for data analysis (Glaser & Strauss, 1967). The study applied CCM for data analysis because this method provides several tools for coding data and an integrated concept for data interpretation (Flick, 2009). Data analysis was linked to data collection after the first steps of data collection were taken; emerging ideas guided the analysis (Holloway & Wheeler 1997). Data gathering, analysis and construction proceed concurrently and coding and memo writing started soon after collection of the first interview and field notes (Flick, 2009). NVivo 10 software package was used for data coding and retrieving data, organisation and presentation.

4.6.1 Thematic analysis

Thematic analysis was used for open coding and first-level code identification. According to the description by Strauss and Corbin (1990), open coding is "the process of breaking down, examining, comparing, conceptualising, and categorising data" (Strauss & Corbin, 1990, p. 61). Codes based on data were examined line by line to define actions or events, and comprised of categorising the information and examining properties and dimensions of the data. The open coding in the study was rooted in thematic analysis. Open coding was through a process of constant comparison. The aim of this internal comparison for open coding was to develop categories and to label them with the most appropriate codes (Boeije, 2002). When an instance of a category was found, this category
was compared with previous instances. If the new instance did not fit the original definition, then the definition was modified or a new category was created (Gray, 2009). At this stage, constant review and comparison of transcripts to identify key concepts of codes was the main analytic process; tables and quotations were listed for each code (Jirojwong et al., 2011) (Table 4-3).

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple readings of the data to generate familiarisation</td>
<td>Recognising and noting important, interesting and relevant data</td>
<td>Highlighting section in a word, a phrase or a whole passage</td>
<td>Generating codes</td>
</tr>
</tbody>
</table>

Gray (2009) summarised Strauss’ (1987) four guidelines which were also applied to the first level of data analysis:

- Ask the data a specific and consistent set of questions, keeping in mind the original objectives of the research study.
- Analyse the data minutely, but also include as many categories, examples and incidents as possible.
- Frequently interrupt the coding to write a theoretical account.
- Do not assume the analytical relevance of any traditional variable such as age, gender, social class, etc. until its relevance emerges from the data.
4.6.2 Constant comparative method

The axial coding and selective coding of the constant comparative method were applied to identify higher level categories and relationships among the concepts. Axial coding is "a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories" (Strauss & Corbin, 1990, p. 96). After identifying a number of categories, the next step was to refine and differentiate the categories resulting from open coding (Flick, 2009). Axial coding developed the main categories and their sub-categories by making conceptual connections. The coding paradigm model proposed by Strauss and Corbin (1998) was used in this study.

Figure 4- 3 The coding paradigm model (Strauss and Corbin, 1998)
Selective coding refers to "the process of selecting the core category, systematically relating it to other categories, validating those relationships, and filling in categories that need further refinement and development" (Strauss & Corbin, 1990, p. 116). The processes of selective coding is similar to axial coding, but the main difference is that it is completed at a much higher level of abstraction (Gray, 2009). Selective coding was used to link all the major categories around a core theme. The process of selective coding involved several stages, as described by Gray (2009), including finding a story line formulated around core categories, relating subcategories to the core categories, validating these relationships against the data and adding categories that needed further refinement (Gray, 2009).

To further guide data analysis, the researcher adopted the method developed by Boeije (2002), which systematised the analytical process and increased the traceability and verification of the analyses. The processes of comparative analytic method CCM involved five steps: (1) Comparison within a single interview (2) Comparison between interviews within the same group (3) Comparison of interviews from different groups (4) Comparison in pairs at the level of the couple (5) Comparing couples. Five different steps were distinguished on the basis of four criteria: (1) the data involved and the overall analysis activities, (2) the aim, (3) the results and (4) the questions asked (Boeije, 2002). In this study, less experienced obstetricians represents less than 15 years of clinical working experience while more experienced obstetricians refers to more than 15 years of clinical working experience. Process of analysing the interviews of obstetricians and pregnant women are presented in Figure 4-4 & 4-5.
Figure 4-4 A flow chart illustrating the process of analysing the interviews of obstetricians:

1. **Open Coding**
   - Codes formed with line by line analysis of raw data of each obstetrician’s transcript
   - Grouping codes into sub-subcategories

2. **Axial Coding**
   - Grouping sub-subcategories into subcategories
     - Example: Busy shift system, no time to explain → 24 hour’s system of designated obstetrician
   - Grouped ‘sub’ subcategories into categories to create axial codes
     - Example: The policy of National Health Insurance + ……+ Women’s choice, External factors
   - Analysed and synthesised to yield selective codes
     - Example: External factors + internal factors → Influences on clinical decisions

3. **Selective Coding**
   - Analysed and synthesised selective codes to yield core theme
     - Example: Influences on clinical decisions + clinical decision-making strategies + decision-making outcomes → Ensuring safety

**Comparison of codes within each transcript:**
- Deleted irrelevant codes and added new relevant codes
- Analysed the properties and relationships of category

**Comparison between interviews within the same groups:**
- Obstetricians supporting RCD
- Obstetricians supporting VBAC

**Comparison of interviews across different groups:**
- Obstetricians supporting RCD / Obstetricians supporting VBAC

**Comparison between the following pairs:**
- Senior obstetricians and junior obstetricians;
- Director level obstetricians and general obstetricians;
- Obstetricians consulting more than and less than 50 women

**Comparison of interviews within the same groups:**
- Obstetricians supporting RCD
- Obstetricians supporting VBAC

**Comparison of interviews across different groups:**
- Obstetricians supporting RCD / Obstetricians supporting VBAC

**Comparison between the following pairs:**
- Senior obstetricians and junior obstetricians;
- Director level obstetricians and general obstetricians;
- Obstetricians consulting more than and less than 50 women
Figure 4-5: A flow chart illustrating the process of analysing the interviews of pregnant women.

- Codes formed through line by line analysis of raw data for each woman
- Comparison of codes between each pregnant
- Comparison of interviews within the same groups
  - women preferring RCD
  - women preferring VBAC
  - women were indecision
- Comparison of interviews across different groups
  - women preferring RCD / indecision
  - women preferring RCD / VBAC
  - women preferring VBAC / indecision
- Comparing couples
  - women preferring RCD / indecision/women preferring RCD

- Grouping ‘sub’ subcategories into subcategories
  Example: National Health Insurance + private insurance ⇒ Health Insurance
- Grouping subcategories into categories
  Example: Informative resources + Health Insurance ⇒ External factors
- Grouped axial categories into selective categories
  Example: Internal factors + external factors ⇒ Influences on women’s decision-making
- Analyzed and synthesized selective categories to yield core theme
  Example: Influences on women’s decisions + decision-making processes of women ⇒ Ensuring safety
4.7 Evaluation of research rigour

The term rigour refers to the strictness in judgment and conduct that must be used to ensure that the successive steps in a project have been set out clearly and undertaken with scrupulous attention to detail, so that the results/findings/insights can be trusted (Taylor, Kermode, & Roberts, 2006). Despite the debate that has been staged for many years over the criteria of rigour in qualitative studies, the current acceptable assertion of rigour is that a connection between the research process and the theoretical notions is evident (Sandelowski, 2006). Thus, avoiding errors of systematic bias during the study design, question development, data collection and analysis are important (Cohen & Crabtree, 2008). Instead of evaluation which provides validity and reliability for quantitative research, qualitative research aims to establish confidence that the data and findings are trustworthy (Lincoln & Guba, 1985), which is the equivalent of the term ‘rigor’. The four criteria of credibility, conformability, dependability and transferability were employed to evaluate the trustworthiness of this qualitative research (Lincoln & Guba, 1985; Streubert, 1995) (Table 4-4).

Comment on the approaches used to enhance rigor that were used in your study under strengths of study.

4.7.1 Credibility

Credibility is established through activities which increase the probability that credible findings will be produced (Lincoln & Guba, 1985). In this study, triangulation, prolonged engagement and frequent debriefing sessions were applied to enhance the credibility of the findings. Multiple data sources
comprising open-ended interviews, field notes, observation and demographic information all work to build triangulation. To ensure and facilitate understanding of the findings, regular meetings with three expert nursing and midwifery supervisors were conducted. In addition, the researcher was a lecturer, who specialised in obstetric nursing, and has worked with students in delivery rooms for over ten years. Prolonged engagement and extensive experience working with this population was important to establishing credibility with potential participants. Other strategies such as developing rich descriptions of the phenomenon under study, examination of previous research to frame findings, and iterative questioning in data collection dialogues were applied (Shenton, 2004) (Table 4-4).

Table 4-4 Criteria for judging trustworthiness and methods

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credibility</td>
<td>Triangulation via use of open-ended interviews, field notes, observation and demographic information</td>
</tr>
<tr>
<td></td>
<td>Prolong engagement</td>
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<td></td>
<td>Debriefing sessions between researcher and supervisors</td>
</tr>
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<td></td>
<td>Description of background and experience of the researcher</td>
</tr>
<tr>
<td></td>
<td>Rich descriptions of phenomenon under scrutiny</td>
</tr>
<tr>
<td></td>
<td>Examination of previous research to frame findings</td>
</tr>
<tr>
<td></td>
<td>Iterative questioning in data collection dialogues</td>
</tr>
<tr>
<td>Conformability</td>
<td>Acknowledgement of researcher’s beliefs and assumptions</td>
</tr>
<tr>
<td></td>
<td>Triangulation to reduce the effect of investigator bias, including reflexive field notes and observation, reports of feedback groups</td>
</tr>
<tr>
<td></td>
<td>Use of tables to demonstrate “audit trail”</td>
</tr>
<tr>
<td>Dependability</td>
<td>In-depth methodological description</td>
</tr>
<tr>
<td></td>
<td>Employment of “overlapping methods”</td>
</tr>
<tr>
<td>Transferability</td>
<td>Provision of thick description of phenomenon</td>
</tr>
</tbody>
</table>
4.7.2 Conformability

Conformability refers to the objectivity and neutrality of data (Polit, 2008). Research cannot be absolutely objective; it is better to admit the researcher’s own predispositions, based on existing beliefs and assumptions. Triangulation strategies were used to reduce the effect of research bias, including reflexive field notes and observation. Raw data, data analysis products and data reconstruction products were provided to the research supervisors for verification. Additionally, an audit trail to trace the course step-by-step with tables was employed in the study (Table 4-4).

Table 4-5 Audit trail tables

<table>
<thead>
<tr>
<th>Writing thesis</th>
<th>Verification from supervisors’ feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version/dates</td>
<td>Supervisor 1</td>
</tr>
<tr>
<td>Full thesis version III/20141013</td>
<td>Introduction and background</td>
</tr>
<tr>
<td></td>
<td>Literature review</td>
</tr>
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<td></td>
<td>Theoretical approaches</td>
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<td>Methods</td>
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<td></td>
<td>Analysis</td>
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<td></td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td>Conclusion</td>
</tr>
</tbody>
</table>
4.7.3 Dependability

Dependability refers to the stability of the data (Polit, 2008). Overlapping methods with naturalistic observation and individual interviews were used to ensure data stability. In addition, the supervisors offered advice, based on the monthly e-mail reports written by the researcher, and routine discussion with the researcher during the stages of analysis (Table 4-4).

4.7.4 Transferability

Transferability is the potential for findings of the research to have meaning to others in similar situations (Streubert, 1995). Transferability was enhanced by providing rich descriptions of phenomena in the data. The study provides clear and distinct description of culture and context, selection and characteristics of participants, data collection and process of analysis, as well as findings. This detailed description will provide other researchers with the opportunity to assess the relevance of the knowledge that is generated to their own setting (Table 4-4).

4.8 Ethical considerations

Protection of participants from sustaining any harm as a result of participating in a study is important. The values of ethical conduct in research include informed consent, rights, privacy and confidentiality, justice, research merit and integrity, and data management (Strauss & Corbin, 1990; University of Melbourne, 2011). The study complied with all requirements of the National Statement on Ethical Conduct in Human Research (NHMRC, 2007).
4.8.1 Informed consent

Relevant information was explained to each participant. Participants were made aware of the risks and benefits of participating in the study. Each participant’s level of involvement was explained clearly to them in verbal and written form. A formal consent form was signed by participants only after they fully understood the research aims, research questions and procedure and had an opportunity to consider the researcher’s response to any question they had posed. Participant information was stated in a plain language statement and all participants received a written copy to keep (Appendix 5).

4.8.2 Rights, privacy and confidentiality

Participants’ names were not shown in any documents or reports for confidentiality. Number codes (for example, obstetrician 1 or pregnant women 1) were used to ensure anonymity. The researcher made an undertaking that participants’ name will not be identified in any publications or presentation. To respect participants’ privacy, even when a written informed consent had been signed, participants had the right to withdraw or stop taking part in the study at any time, for any reason.

4.8.3 Justice

Based on the principle of human equality, the researcher treated all participants fairly, no matter what women’s nationality, religion or social-economic status and the benefits and risks of the research were carefully
explained.

4.8.4 Research merit and integrity

This was the first study conducted in Taiwan to capture the influences on decision-making regarding birth choice, and in particular, the real-world information sharing between obstetricians’ and pregnant women. Additionally, the research was conducted honestly and respectfully using an appropriate study design to achieve the proposed aims of the study, in accordance with Taiwan government policy for reducing CD rates. The study was undertaken as a PhD project and frequent contact with three supervisors ensured the researcher was supported by an appropriately skilled team.

4.8.5 Data management

All data gathered were used for research purposes only. The transcribed files were imported onto an encrypted personal laptop and were stored in computer file format on the hard disk and a thumb drive. The encrypted hard disk and encrypted thumb drive and all paper documentation, such as consent forms, transcribed documents, field notes, interview schedules and respondents’ demographics, are stored separately from the raw data in a locked cabinet at the researcher’s office in Taiwan which remains locked after office hours or when there is no one in attendance. All data was stored as an electronic copy in a password protected computer and submitted to the principal supervisor at Deakin University for secure storage for six years, in accordance with the University policy. The information will be disposed of six years after study completion. The paper form
Thesis Chapter Four: Methods

of information will be shredded and the computer files will be deleted after six years.

4.9 Summary

A qualitative approach was employed to explore decision-making processes and influences regarding mode of birth for Taiwanese women who have had a previous CD. Research methods, including interviews of obstetricians, pregnant and postnatal women and an observational study of pregnancy consultations, were used to capture participants’ stories. Thematic analysis and the constant comparative method were used to understand the meaning of the data. The research findings are presented in the following chapter.
Chapter Five

Findings-obstetricians’

decision-making
CHAPTER FIVE: FINDINGS

PHASE I- OBSTETRICIANS’ DECISION-MAKING

5.0 Introduction

This chapter presents the findings of interviews with Taiwanese obstetricians’ about decision-making strategies regarding mode of birth following a primary CD and the influences on their decisions/recommendations. The research findings from the analysis of obstetricians’ interviews are presented in two sections. The first section presents a descriptive analysis of the demographic characteristics of obstetrician participants. The second section presents the categories and themes that emerged from the analysis (using the constant comparative method and thematic analysis) of interviews with obstetricians.

5.1 Demographic characteristics of obstetrician participants

Of the 22 obstetricians eligible to take part in the study, 11 agreed to participate. Obstetricians were aged between 30 years and 60 years. Four obstetricians had clinical working experience of more than 15 years. Of the four obstetricians, two obstetricians were at director level. Seven obstetricians had clinical working experience of less than 15 years. Post-registration qualifications of participants included eight with a professional Medical Doctorate qualification; two possessed Doctor of Philosophy degrees and one had obtained a Master’s degree (Table 5-1).
5.2 Themes and categories arising from analysis of the interview data

In the following section the findings resulting from an analysis of the qualitative interviews with obstetricians are presented. Data consisting of 1017 quotations in English were entered into N-VIVO 10. Analysis of interviews with obstetricians was undertaken using thematic and constant comparative analysis (described in Chapter four). The broad themes and categories that emerged from the data included the core theme (ensuring safety) and selective categories (influences on clinical decisions, clinical decision-making strategies and decision-making outcomes) (Table 5-2).
5.2.1 Ensuring safety

The core theme of ensuring safety emerged from three selective codes, including influences on clinical decisions, clinical decision-making strategies and decision making outcomes (Table 5-2). Obstetricians’ decision-making strategies were based on protecting the mothers and infants as well as protecting themselves from risk. Obstetricians’ clinical decision-making was influenced by both internal and external factors. As a consequence of internal and external factors, obstetricians adopted different decision-making strategies to assist women to make a decision regarding mode of birth, either dictatorial or consultative approaches. Through the two approaches, two outcomes resulted, defensive medicine and respecting women’s decision.
Table 5-2 Example of categories and themes identified from obstetrician interviews

<table>
<thead>
<tr>
<th>Sub-subcategories</th>
<th>Subcategories</th>
<th>Axial codes</th>
<th>Selective codes</th>
<th>Core theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive evaluation</td>
<td>Attitudes toward supporting VBAC</td>
<td>Internal factors</td>
<td>Influences on clinical decisions</td>
<td>Ensuring safety</td>
</tr>
<tr>
<td>Negative evaluation</td>
<td>Confidence in performing VBAC</td>
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<tr>
<td>Ability</td>
<td>Equivalent payment</td>
<td>National Health Insurance policy on reimbursement</td>
<td>External factors</td>
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<tr>
<td>Clinical experience</td>
<td>The financial coverage of RCD</td>
<td>Hospital policy regarding VBAC</td>
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<td></td>
<td>Medical quality indicators</td>
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<tr>
<td></td>
<td>Trend worldwide</td>
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<td></td>
<td>Busy working shift</td>
<td>24 hour system of the designated obstetrician</td>
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<td></td>
<td>No time to explain</td>
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<td></td>
<td>Tense physician-patient relationship</td>
<td>Medical malpractice</td>
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<td>Medical disputes</td>
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<td>Evidence base cannot ensure safety</td>
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<td></td>
<td>Significant others</td>
<td>Women’s choice</td>
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<td></td>
<td>Unpredictability with vaginal birth</td>
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<td>Fear of pain/fear of pain twice</td>
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<td>Scheduled birth time</td>
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<td>Auspicious time</td>
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<td>Advanced maternal age / low fertility</td>
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<td></td>
<td>Recommending or performing a RCD</td>
<td>Dictatorial approach</td>
<td>Clinical decision-making strategies</td>
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<td>Inquiring about women’s intention</td>
<td>Consultative approach</td>
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<td>Informing women of alternatives</td>
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<td></td>
<td>Simple explanation/ analysis of risks</td>
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<td>Letting women decide for themselves</td>
<td></td>
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<td></td>
<td>RCD</td>
<td>Defensive medicine</td>
<td>Decision-making outcomes</td>
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<td></td>
<td>RCD/VBAC</td>
<td>Respect women’s decision</td>
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5.2.2 Influences on clinical decisions

Two factors influenced clinical decisions: internal and external factors.

Internal factors

These were obstetricians’ attitudes toward supporting VBAC and their confidence in performing VBAC (Figure 5-1).

![Diagram showing relationships of internal factors among sub-subcategories, subcategories and categories in obstetricians]

**Attitudes toward supporting VBAC**

Two sub-subcategories of attitudes towards supporting VBAC were identified, including *positive and negative evaluation*. The attitudes toward VBAC among more experienced obstetricians/director-level obstetricians were positive; they were more supportive of offering VBAC than offering RCD because they
reported the equivalent level of risk in VBAC as in vaginal birth. Some less
experienced obstetricians had a negative attitude towards VBAC. They advocated
that women who had had a previous CD should have a RCD. They did not support
the alternative option of VBAC because they reported the level of risk associated
with VBAC. The following quotes are illustrative:

06-27 You do not have to take uterine rupture into consideration because the
percentage is not high; so you can regard it as normal. (Positive evaluation)

04-14 If you have had a previous caesarean and intend to have a vaginal birth, there
will be indeed have a 1% chance of uterine rupture. (Negative evaluation)

Confidence in performing VBAC

Two sub-subcategories of confidence in performing VBAC were identified,
including competence and clinical experience.

Competence

Competence was associated with the obstetrician’s confidence in performing
VBAC. Some more experienced obstetricians and director-level obstetricians were
more confident in performing VBAC than less experienced obstetricians/general
obstetricians. Most less experienced obstetricians were not confident in their
ability to manage the uncertain outcomes of vaginal birth such as emergent or
special conditions and made more conservative decisions.

03-05 The third is the ability of obstetricians. For example, if a woman who has had
a previous caesarean appears with mal-presentation in the current pregnancy, or
other problems of the placenta, the doctor will become very conservative toward it
Clinical experience

Four participants had cared for women who had experienced uterine rupture during labour, involving two VBAC as well as in unscarred uteruses. Obstetricians who had had successful clinical experiences in performing VBAC were more willing to offer women VBAC. In contrast, some obstetricians who observed unsuccessful experiences in vaginal birth were reluctant to perform VBAC.

11-50 For the uterine rupture, the situation I met was the first baby, long time ago. During the half course of labour, the uterine rupture happened; the baby’s condition wasn’t good, the uterus seems rupture, foetal heart beat dropped sent to operation room. After an emergency CS, she come out and the baby seems to have CP. The baby died sooner.

05-32 Because of my successful experiences with pregnant women, I am positive about it.

External factors

Five sub-categories within the theme of external factors, including medical malpractice, National Health Insurance policy on reimbursement, hospital policy regarding VBAC, the 24 hour system of the designated obstetrician and women’s choice, were identified (Figure 5-2).
Medical malpractice was the most frequently cited external influence and ten obstetricians referred to this issue. Three sub-subcategories, including physician-patient relationship, medical disputes, and evidence-based data cannot ensure safety were identified within the medical malpractice subcategory. The following quotes are illustrative.

10-68 I think the first obstacle for VBAC is that if they want to have caesarean delivery again...... actually the caesarean delivery just involves a so called “tension in the physician-patient relationship”. The risk that the doctors have to take is actually very heavy, so to speak. So some doctors think why should I have to take pains shouldering this responsibility? If I can take it, I will take it. If I can’t, you must just turn to the medical centre to find another doctor!

03-07 Physician-patient relationship is very strained currently. The physician-patient relationship is no longer like it used to be. Patients think whatever physicians do for them is necessary, and patients expect that physicians would not
be mistaken. Once the physicians make a mistake, he should be condemned. In Taiwan the situation goes like this!

To avoid medical disputes, most less experienced obstetricians were not willing to take any risks that may lead to complications such as a uterine rupture. The following quotes illustrate this sub-subcategory.

01-05 Even though the Government is willing to offer a two million dollar grant for the relevant matter of medical disputes, when a physician is accused, two hundred million dollars may be not enough for compensation.

08-07 There are so many medical disputes so we do not want to be a brave obstetrician but to be a safe obstetrician.

11-30 If the pregnant woman asks whether I can deliver their baby? There are so many factors in it, so we can’t cover it all in a sentence. So you have to think about the questions that the patients ask, and whether it may mean that we might face some medical disputes in the future.

Most less experienced obstetricians did not trust the evidence, such as evidence-based guidelines, systematic reviews, and studies. They reported that these cannot ensure patient safety when an accident occurs. The following quotes are illustrative.

05-14 There are advantages and disadvantages to guidelines. For the advantages, we physicians can clearly understand how to do it; for the disadvantages, when the case does not fit the guidelines and the patients have some problems or medical disputes, which is not good for doctors.

03-22 know many papers have mentioned it; we also know the guidelines. Even when you are in accordance with the guidelines, when there is an accident, the
National Health Insurance policy on reimbursement

National Health Insurance (NHI) played a critical role in obstetricians’ decision-making following a primary CD. Two sub-subcategories within this theme were identified, including equivalent payment, and the financial coverage of RCD. The NHI policy of equivalent payment between vaginal birth and CD was also reported to be effective in limiting the number of obstetricians performing CD because of a lack of financial incentives and the following quotes are illustrative.

05-01 The payments (NHI) for caesarean delivery and vaginal birth are now almost the same. Nowadays few doctors would suggest that pregnant women have caesarean delivery because of the higher income of caesarean delivery for doctors.

10-09 I just mentioned the incentive is limited because it is not the incentives of coverage. This factor is excluded so it is nothing to do with profit. If you say I work as an obstetrician to make money from doing caesarean delivery, this factor has been excluded.

The policy of financial coverage for RCD reportedly decreased most obstetricians’ intention to offer VBAC. Compared to NHI, private insurance (commercial insurance) did not provide financial coverage unless women underwent TOL. The following quotes illustrate this sub-subcategory.

11-80 For the National Health Insurance, no one controls it. It’s their business if they lose money. Nobody controls it so it would not have one as the commercial insurance. For private insurance, if you think that when I do five caesarean
deliveries, I’ll lose money, I will lose a lot of money. But for the National Health Insurance, nobody controls it. It’s okay now because not so many people are having as many children.

06-32 The insurance covered patients with repeat caesarean delivery. For doctors and patients, repeated caesarean delivery is an easier decision. The cost is already paid by the government.

Hospital policy regarding VBAC

The hospital policy regarding VBAC was supportive of obstetricians offering VBAC but this policy did not affect less experienced obstetricians’ decisions. Two sub-subcategories were identified, including medical quality indicators and trend worldwide. While less experienced and general obstetricians reported that CD rates did not judge the quality of medical care, director-level obstetricians regarded the low CD rates as an indicator of the quality of medical care and were willing to offer VBAC.

01-19 A few years ago, encouraged by the Government, the VBAC success rate reached 16%, and later decreased. That’s because using caesarean delivery rate indicators to judge the quality of a hospital is not objective.

06-70 For hospital accreditation, reducing caesarean delivery rate is necessary!

Less experienced obstetricians/general obstetricians reported that CD rates in Taiwan were not considered high compared to other countries and the CD would continue to increase worldwide so they were less motivated to offer VBAC. The following quotes illustrate the sub-subcategory, trend worldwide.
04-01 The caesarean birth rate in Taiwan, I think, are... Actually if you consider things from a global perspective, you’d find out that the rates in Taiwan aren’t that high.

02-41 40% in Taiwan is not high. In Nordic countries, the rate of 70% or 80% is not high.

The 24 hour system of the designated obstetrician

The 24 hour system of the designated obstetrician was another critical factor influencing obstetricians’ decisions. Two sub-subcategories within this theme were identified, including busy working shift and no time to explain. A busy working shift at the medical centre leaves obstetricians exhausted, and therefore some less experienced obstetricians/general obstetricians were not willing to accept the unpredictability of vaginal birth. The following quotes illustrate this sub-subcategory.

04-07 Taiwan is not a duty system but a designated physician system. If you go to the hospital to visit Doctor A, Doctor A, will be the doctor to deliver your baby, regardless of how long it takes you to deliver the child. Problems occur with this sort of system because it is in human nature, anyone’s, in fact. Suppose if you’re a doctor and your patient has dilated 8cm at 5 o’clock in the afternoon; for instance, this Doctor A wants to get off work, and wouldn’t it be natural for him to want the baby to be delivered sooner – I mean, it would be natural for anyone to think that. Or suppose it is 11 o’clock at night, regardless of how many centimetres the patient has dilated, if you were the doctor, wouldn’t you want the baby to be born sooner? As a doctor, why would I want that? Because I want to get some sleep at night, because I still have to work tomorrow. This sort of incentive might contribute to the fact that caesarean rates may be higher in Taiwan.
Our hospital are too rushed in every aspect. Providing a VBAC should not be like that. The tension of our hospital is too great and there are too many cases in our hospital. Our hospital is not appropriate for VBAC according to the current situation.

Although some busy obstetricians consulting more than 50 women in half a day did not participate in the study, according to participants’ perceptions of their colleagues’ behaviour, busy obstetricians who had many patients reportedly did not inform women of alternatives to CD because they had no time to explain. The following quotes illustrate this sub-subcategory.

11-76 The doctors like Dr. Z is so busy that he won’t say this to you. Who is willing to spend time on this? Because I don’t have too many patients for birth! So I have time to explain it, but for very busy doctors, they will ask you to ask the antenatal care centre.

05-23 If you want obstetricians to promote VBAC, it will be very difficult. As I mentioned previously, doctors have many patients; they do not have time to explain that.

Women's choice

All obstetricians identified women’s choice as a critical factor influencing their decisions and four obstetricians proposed that one in ten women would try VBAC. Some obstetricians respected women’s decisions, whether they intended to have a VBAC or RCD. Obstetricians reported that several factors influenced women’s decisions to select VBAC or RCD, including significant others, the unpredictability associated with vaginal birth, fear of pain/fear of pain twice,
scheduled birth time, auspicious time, advanced maternal age and low fertility.

The following quotes are illustrative.

11-04 She will ask her colleagues, relatives, mother and mother-in-law and her husband. Everyone has his opinion; he or she thinks the better way of doing it.

(Significant others)

02-18 If we take the public point of view, I guess there is 0.07% probability of uterine rupture associated with VBAC, and it also does not guarantee successful delivery. My conclusion is that Taiwanese pregnant women prefer not to have unpredictability. (Unpredictability with vaginal birth)

08-06 Nowadays the maternal age is getting higher and higher. Mothers at advanced maternal age are unwilling or afraid of pain. They force the wrong way and tend to use the wrong way to push. They are not like young mothers who are easy to give birth. (Advanced maternal age)

07-23 There is another factor in Taiwan; a very important social factor is low fertility birth. (Low fertility)

Table 5-3 illustrates the comparison of different types of obstetricians and factors influencing clinical decisions.
### Table 5-3 Comparison of different types of obstetricians on factors influencing clinical decisions

<table>
<thead>
<tr>
<th>Categories</th>
<th>Subcategories</th>
<th>Comparison between the obstetrician pairs</th>
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<tbody>
<tr>
<td></td>
<td>more experienced obstetrician</td>
<td>less experienced obstetrician</td>
</tr>
<tr>
<td>Internal factors</td>
<td>Attitudes toward supporting VBAC</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Confidence in performing VBAC</td>
<td>+</td>
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<tr>
<td>External factors</td>
<td>NHI policy on reimbursement</td>
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<td></td>
<td>Hospital policy regarding VBAC</td>
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<td></td>
<td>The 24 hours system of the designated obstetrician</td>
<td>-</td>
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<td></td>
<td>Medical malpractice</td>
<td>-</td>
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<tr>
<td></td>
<td>Women’s choice</td>
<td>+</td>
</tr>
</tbody>
</table>

P.S.  +: positive;  -: negative;  * Some obstetricians were positive; some were negative.

### 5.2.3 Clinical decision-making strategies

In the climate of the medical environment in Taiwan, clinical decision-making strategies among obstetricians varied greatly. In response to the influences of internal and external factors, obstetricians adopted one of two clinical decision-making strategies: a dictatorial approach or a consultative approach (Table 5-4).
Table 5-4 Clinical decision-making strategies used by obstetricians

<table>
<thead>
<tr>
<th>Clinical decision-making strategies</th>
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<tbody>
<tr>
<td>Dictatorial approach</td>
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<tr>
<td>Recommending or performing a RCD</td>
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<td>Consultative approach</td>
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<tr>
<td>Inquiring about women’s intention</td>
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<tr>
<td>Informing women of alternatives</td>
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<tr>
<td>Simple explanation/analysis of risks</td>
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<tr>
<td>Letting women decide for themselves</td>
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</tbody>
</table>

Dictatorial approach

Some less experienced obstetricians reported they recommended a RCD or performed RCD to avoid women taking any risks. Examples of participants’ comments in relation to dictatorial approach are provided below.

03-39 *At her fifth month of gestation, it’s time to confirm her expected date of confinement through an ultrasound examination and measurement of BPD [bi-parietal parameter]. Confirmation of the expected date of confinement means that she would have a caesarean delivery so I'll tell her to choose a date.*

09-28 *I will tell her to have an operation at the 38\textsuperscript{th} week. (Researcher: You discussed it at the 38\textsuperscript{th} week?) No, no! At around the 36\textsuperscript{th} week, I would tell her if she wants to know the time for an operation, which it’s scheduled to be two weeks ahead of the expected date of confinement, or around the 38\textsuperscript{th} week. I will tell her the exact day of my operation. If you don’t need to give birth in a specific time, you come here and stay for the whole day, and I will perform the operation.*
Consultative approach

In contrast, some less experienced obstetricians and most more experienced obstetricians/director-level obstetricians assisted women to make birth choices through a four-step consultative approach: inquiring about a woman’s intentions; informing women of alternatives; providing a simple explanation/analysis of risks; letting women decide for themselves. The steps of the consultation approach differed slightly among individual obstetricians.

Inquiring about women’s intentions

The majority of more experienced obstetricians/director-level obstetricians inquired about a woman’s intention in the second trimester of pregnancy. More experienced obstetricians/director-level obstetricians reported that they inquired about women’s intentions through asking women the question ‘Do you want to have a caesarean delivery or vaginal birth this pregnancy?’ If the answer was caesarean delivery, nine out eleven obstetricians claimed that they respected the woman’s decisions and did not have further discussion. Examples of participants’ comments in relation to inquiring about women’s intentions are provided below.

11-22 About three months after antenatal examination. I will begin to ask her if she wants to have a caesarean delivery or vaginal birth this time in around ten weeks, sometimes in four months or five months.

06-07 Around 35-36 weeks, I would ask her whether she will choose to have caesarean delivery or vaginal birth.
Informing women of alternatives

The majority of more obstetricians reported that they would not actively inform women of alternatives if women decided to have a CD. Just one more experienced obstetrician and one general obstetrician informed women of alternatives when the woman was making a decision for RCD. Examples of participants’ comments in relation to informing women of alternatives are provided below.

09-60 Basically, in my cases, I won’t tell them (about VBAC). Especially, I won’t encourage them to do so unless they insist on it themselves! (More experienced obstetricians)

10-56 I won’t actively ask everyone who has had a previous caesarean to try a vaginal birth. (More experienced obstetricians)

06-07 If the mother would like to have a caesarean delivery, I’ll tell her there is another option which is vaginal birth after caesarean. (General obstetricians)

Simple explanation/analysis of risks

The majority of obstetricians simply explained risks regarding VBAC. They also helped women analyse the risks and make birth choices. The risk of uterine rupture was a frequent discussion point amongst the obstetricians, and the explanation about the likelihood of this event varied greatly. Less than one percent risk of uterine rupture was the most commonly quoted probability. According to two obstetricians’ reports, less than two to three out of ten women would like to have a TOL before the explanation of risks and just one woman would achieve successful VBAC. However, all women tended to seek RCD after the explanation. All more experienced obstetricians/director-level
obstetricians explained the monitoring system used in a medical centre if any emergency occurred, while the potential for uterine rupture was explained by some junior obstetricians/general obstetricians. Examples of participants’ comments in relation to simple explanation/analysis of risks are provided below.

10-44 For the risk of trial of labour, we all tell them 1%. One out of 100 will definitely have it. To some extent, there must be uterine rupture.

05-11 I just tell her that we have foetal monitoring equipment or a 24-hour foetal monitor when you are in hospital for birth. There won’t be any problems. Most patients can accept that. Of course, some risk exists there but they can accept the risk.

Letting women decide for themselves

To avoid making a wrong decision for women, potentially resulting in medical disputes, all obstetricians who adopted a consultative approach gave the right of the decision to the women after explaining the risks of VBAC. Examples of participants’ comments in relation to letting women decide for themselves are provided below.

02-08 I will leave the mother to decide.

08-16 So we let them decide for themselves. I won’t affect their decision but let them decide. I would tell them that they can have a caesarean birth directly or try natural birth. They would decide themselves.

Table 5-5 illustrates the analysis of comparison of different types of obstetricians on clinical decision-making strategies.
Table 5-5 Comparison of different types of obstetricians on clinical decision-making strategies

<table>
<thead>
<tr>
<th>Categories</th>
<th>Subcategories</th>
<th>Comparison between the obstetrician pairs</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>more experienced obstetrician</td>
<td>less experienced obstetrician</td>
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<tr>
<td>Dictatorial</td>
<td></td>
<td>director-level obstetrician</td>
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<tr>
<td>approach</td>
<td></td>
<td>general obstetrician</td>
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<tr>
<td>Recommended</td>
<td></td>
<td>obstetrician consulting &gt;50 women</td>
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<tr>
<td>women or</td>
<td></td>
<td>obstetrician consulting &lt;50 women</td>
</tr>
<tr>
<td>performed RCD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>approach</td>
<td></td>
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<tr>
<td>Inquiring about</td>
<td></td>
<td></td>
</tr>
<tr>
<td>women’s intention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informing women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>of alternatives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple explanation</td>
<td></td>
<td></td>
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<tr>
<td>/analysis of risks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letting women</td>
<td></td>
<td></td>
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<tr>
<td>decide for</td>
<td></td>
<td></td>
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<tr>
<td>themselves</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dictatorial approach

- Recommended women or performed RCD:
  - +: positive; -: negative; * Some obstetricians were positive; some were negative.

Consultative approach

- Inquiring about women’s intention:
  - +: positive; -: negative; * Some obstetricians were positive; some were negative.

- Informing women of alternatives:
  - +: positive; -: negative; * Some obstetricians were positive; some were negative.

- Simple explanation /analysis of risks:
  - +: positive; -: negative; * Some obstetricians were positive; some were negative.

- Letting women decide for themselves:
  - +: positive; -: negative; * Some obstetricians were positive; some were negative.

P.S. +: positive; -: negative; * Some obstetricians were positive; some were negative.

5.2.4 Decision-making outcomes

With the different clinical decision-making strategies among obstetricians, two approaches were identified, defensive medicine and respecting women’s decisions.

Defensive medicine

Medical malpractice claims have resulted in defensive medical practice. ‘Defensive’ obstetricians directly recommended or performed a RCD for women who had had a previous caesarean. They tended to adopt a defensive approach to their medical practice to avoid the risk of uterine rupture or medical malpractice.
Examples of participants’ comments in relation to defensive medicine are provided below.

08-07 There are so many medical disputes so we do not want to be a brave obstetrician but to be a safe obstetrician.

05-28 Most doctors would rarely offer caesarean delivery for the purpose of insurance payment. Most doctors are afraid of medical disputes so they choose caesarean section.

Respecting women’s decisions

Some obstetricians adopted a consultative approach, respecting women’s decisions after each step of risk assessment. Some women preferred to have RCD after finishing the first step of risk assessment when obstetricians’ inquired about women’s intention. Some women selected RCD after the risks were explained by obstetricians (Figure 5-3).

Figure 5-3 Obstetricians respecting women’s decision during each step of consultation
However, although obstetricians gave the women the opportunity to make the decisions, obstetricians carefully selected potential candidates from the women who preferred to have a TOL. For women who were willing to have a TOL, obstetricians reported they would select potential candidates carefully, including evaluating women’s previous caesarean indications and history, and their present pregnancy status, including foetal presentation, foetal weight, pelvic size. Most obstetricians explained that they did not recommend women choosing VBAC if the indication for previous CD was a prolonged labour. By contrast, they encouraged women to have a VBAC if the woman had previous CD because of mal-presentation or foetal distress. To avoid uterine rupture, individual obstetricians selected different methods to assess the caesarean wound such as measuring thickness of the uterine wall. For women undergoing a TOL, obstetricians reported that they carefully monitored the progress of labour. Obstetricians reported that women who went into labour naturally had the best opportunity to attempt VBAC.

5.3 Summary

Taiwanese obstetricians’ decision-making strategies regarding mode of birth were based on the principle of ensuring the safety of mothers and babies, and decreasing the risk for obstetricians. Obstetricians made decisions to protect themselves as well as the mothers and babies. They regarded safety as the first consideration when they assisted women to make decisions regarding mode of birth. Obstetricians’ opinions regarding VBAC were influenced by both internal and external factors. Internal factors were obstetricians’ attitudes toward
supporting VBAC and confidence in performing VBAC. External factors included NHI policy on reimbursement, hospital policy regarding VBAC, the 24 hour system of the designated obstetrician, medical malpractice and women’s choice. Medical malpractice was the most frequently cited external factor. Two approaches to clinical decision-making were used by obstetricians in discussing birthing options with women. A consultative approach was employed by most more experienced obstetricians/director-level obstetricians, based on the concept of the same level of risk in VBAC as in vaginal birth, while most less experienced obstetricians preferred to implement a dictatorial approach because of the level of risk associated with VBAC. Through the two approaches, two outcomes resulted, defensive medicine and respecting for women’s decisions. While more experienced obstetricians/director-level obstetricians respected women’s decisions, less experienced obstetricians tended to adopt defensive medicine.

In the next chapter, findings from observations between obstetricians and pregnant women and women’s interview are presented and analysed.
Chapter Six

Findings-women’s
decision-making
Chapter Six: Findings-Women’s’ Decision-Making
“Plans fail for lack of counsel,

but with many advisers they succeed.”

~Bible~ Proverb 15:22~
CHAPTER SIX: FINDINGS

PHASE II- WOMEN’S DECISION-MAKING

6.0 Introduction

This chapter presents the findings of Phase II, an analysis of the decision-making processes and influences on the mode of birth choice following a CD in Taiwanese women. The first section presents demographic characteristics of participants. The second section presents the findings of Phase II Stage 1, the observation of consultations between obstetricians and pregnant women. The findings of Phase II Stage 2 involving prenatal interviews with women are presented in the third section. Finally, the fourth section presents the findings of Phase II Stage 3, involving interviews with women in the postnatal period. This chapter presents findings that emerged from thematic analysis and use of the constant comparative method.

6.1 Demographic characteristics of participants

A total of 24 pregnant women agreed to participate in the study and provided signed consent. Three women were excluded from the study including two women who transferred to another hospital located in southern Taiwan and one woman who miscarried before the prenatal interview. In total, 21 pregnant women participated in the study. Women completed a survey to obtain their demographic characteristics. The majority of women were aged 31-35 years. Ten women (52%)
were aged over 35 years. All women were Taiwanese in nationality, with the exception of one woman who was from China. Two participants had post-graduate qualifications, twelve were university graduates, and six were graduates from high school or college. Regarding religious beliefs, the majority of participants identified themselves as Buddhist or Taoist (16/21), two as Christian (2/21), and four as Atheist (3/21). With respect to women’s professional status, four were in business, three were health professionals, five were housewives; and nine were ‘other’ professionals. The monthly income range was equivalent to $500 to $2,000 Australian dollars before tax (Table 6-1). With regard to gravidity of the participants, 18/21 (85.7 %) were in their second pregnancy and 3/21 (14.3%) were pregnant for the third time. In terms of indications for their primary CD, the following reasons were provided: prolonged labour (8/21) foetal distress (3/21), mal-presentation (4/21), placenta praevia (2/21), preeclampsia (2/21), twin pregnancy (1/21) and macrosomia (1/21) (Table 6-1).
Table 6-1 Demographic characteristics of pregnant women (N=21)

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<thead>
<tr>
<th>Characteristics</th>
<th>n</th>
<th>%</th>
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<tr>
<td><strong>Age group (years)</strong></td>
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<tr>
<td>26-30</td>
<td>3</td>
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<tr>
<td>31-35</td>
<td>8</td>
<td>38.1</td>
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<td>36-40</td>
<td>7</td>
<td>33.3</td>
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<tr>
<td>41-45</td>
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<td><strong>Nationality</strong></td>
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<td>Taiwanese</td>
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<td>95.2</td>
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<tr>
<td>Chinese</td>
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<td>4.8</td>
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<tr>
<td><strong>Education (highest level achieved)</strong></td>
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<tr>
<td>High school</td>
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<td>College</td>
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<tr>
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<tr>
<td><strong>Professional</strong></td>
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<tr>
<td>Business</td>
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<td>Health professionals</td>
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<td>Housewife</td>
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<td>Other</td>
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<td><strong>Income AUD/month</strong></td>
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<tr>
<td>&lt; 500</td>
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<tr>
<td>1001-1500</td>
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<td>9.5</td>
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<tr>
<td>1501-2000</td>
<td>6</td>
<td>28.6</td>
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<tr>
<td>&gt;2000</td>
<td>3</td>
<td>14.3</td>
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<td><strong>Religion</strong></td>
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<td>Buddhist</td>
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<td>Taoism</td>
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<td>Atheist</td>
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<td>Parity</td>
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<tr>
<td>Two</td>
<td>18</td>
<td>85.7</td>
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<tr>
<td>Three</td>
<td>3</td>
<td>14.3</td>
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<td><strong>Reasons for primary CD</strong></td>
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<td>Prolonged labour</td>
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<td>Foetal distress</td>
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<td>Mal-presentation</td>
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<td>19.1</td>
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<td>Preeclampsia</td>
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<td>9.5</td>
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<tr>
<td>Others</td>
<td>4</td>
<td>19.0</td>
</tr>
</tbody>
</table>
6.2 Findings from Phage II Stage 1 – observation of consultation between obstetricians and pregnant women

Interactions between obstetricians and pregnant women were observed at consultations in the Outpatient Department of Obstetrics and Gynaecology, when the woman was 33-34 weeks gestation. Observational data were recorded and field notes were collected. The analysis of each observation was compared with the interviews with the respective obstetricians and pregnant woman.

A total of 21 pregnant women participated in the study but only nine were observed in consultations with the obstetricians. A total of 12 pregnant women who were not observed as their obstetricians did not agree to participate in the study and be observed. Although 11 obstetricians consented to participate in the study, only nine were observed as two obstetricians did not care for any pregnant women who had had a previous CD visit them during data collection period. A total of nine observations were recorded and the time of each observation was 5-10 minutes in length. Mandarin was the language used during consultations. Individual obstetricians consulted with women in a small unit with a computer, a desk, and three chairs; one each for the obstetrician, woman and nurse. There were two beds, one an examination bed, and the other for ultrasound examination. For the busier obstetricians, there were two pregnant women waiting in the same room for a consultation. Once a woman finished her consultation, the obstetrician consulted another pregnant woman immediately. On average, obstetricians consulted 20-40 women in half a day and each consultation was completed within 5-8 minutes. During the consultation, women seldom asked questions.
In most consultations obstetricians provided women with routine antenatal examinations such as checking the foetal heart rate and measuring the fundal height of the uterus. They did not provide any further counselling regarding mode of birth.

6.3 Findings from Phase II Stage 2 - pregnant women’s interviews

Analysis of interviews with pregnant women was undertaken using thematic and constant comparative analysis (Chapter Four). The data, consisting of 637 quotations in English, were entered into N-VIVO 10. All women had made their decision on mode of birth by the time of interview, between 35 and 37 weeks gestation. With regard to women’s intention for mode of birth, nine women (43%) planned a VBAC and twelve (57%) women intended to give birth with a RCD.

Analysis of interviews with pregnant women was undertaken using thematic and constant comparative analysis (described in Chapter four). The broad themes and categories that emerged from the data included one core theme, two selective categories, six categories, and six subcategories (see Table 6-2). Ensuring safety was the core theme that emerged from two selective categories. Six categories were developed from six subcategories. The themes and categories are presented in the following section.
<table>
<thead>
<tr>
<th>Sub-subcategories</th>
<th>Axial codes</th>
<th>Selective codes</th>
<th>Core theme</th>
</tr>
</thead>
<tbody>
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<td>Induction</td>
<td>Positive experience</td>
<td>Previous birth experience</td>
<td>Internal factors</td>
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<td>Previous CD</td>
<td>Negative experience</td>
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<td>Interval between previous CD and this pregnancy/caesarean wound healing</td>
<td>Fear of uterine rupture</td>
<td>Fear of vaginal birth</td>
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<td>Labour pain and operation pain</td>
<td>Fear of pain</td>
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<tr>
<td>Quicker recovery/through birth passage</td>
<td>Positive evaluation</td>
<td>Evaluation of mode of birth</td>
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<td>Vaginal birth is better for mothers’ and babies’ health</td>
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<td>Schedule the time/Finished quickly</td>
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<td>Vaginal birth is better for mothers’ and babies’ health</td>
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</table>
6.3.1 Ensuring safety

Most pregnant women in this study regarded the health and wellbeing of mothers and babies as the first consideration when making a decision regarding mode of birth. A total of six subcategories (previous birth experience, fear of vaginal birth, evaluation of mode of birth, current pregnancy, information resources, and health insurance) were synthesized from the first level codes. Six categories (internal factors and external factors, information searching, respecting professional judgment, evaluation of alternatives and making a decision regarding mode of birth) were developed from the six subcategories. Using constant comparison, two selective codes were created, namely influences on women’s decision-making and decision-making processes of women. Finally, the core theme of ensuring safety was generated after synthesising the two selective codes (Table 6-2).

6.3.2 Influences on women’s decision-making

There were two influences that emerged in the category of influences on women’s decision-making, namely internal factors and external factors and both emerged from the constant comparative analysis.

Internal factors

Internal factors were related to the individual pregnant women and comprised of four categories: previous birth experience; fear of vaginal birth; evaluation of modes of birth and current pregnancy (Figure 6-1).
Figure 6-1 The relationship of internal factors to pregnant women’s decision-making

*Previous birth experience*

Previous birth experience was the most frequently cited individual factor affecting women’s decisions. Often women who had a positive birth experience for their previous birth opted for the same mode of birth for the subsequent birth. Conversely, women selected a different mode of birth if they had negative experiences during the previous birth.

*Positive experience*

Three women were confident in having a TOL, based on their previous successful vaginal birth experience. Similarly, two women who had a positive experience of a CD selected RCD.

*16-03 I had a vaginal birth for my first baby and had a previous caesarean delivery for my second baby. That experience of vaginal birth was excellent so I have been thinking about having a vaginal birth. I prefer to have a vaginal birth. (Positive*
experience with vaginal birth)

18-09 I feel caesarean delivery was not really painful. I feel OK and I can endure it, so since I had the experiences of caesarean delivery for the first child, the second child have the same method with caesarean delivery. (Positive experience with CD)

Negative experience

Most women who had a negative birth experience of induction of labour were reluctant to attempt VBAC. A total of 15 women underwent the experience of induction for their previous birth experience. Of the 15 women, eight women progressed to primary CD due to unsuccessful induction of labour and in these instances cervical dilatation was limited to less than 2cm during latent stage or 7-8cm during active stage. These women lacked confidence with VBAC for this birth because of the previously unsuccessful experience of induction of labour.

05-01 At that time I decided to have vaginal birth for the first birth initially. However, the labour course had been prolonged and I couldn’t give birth for a long time. So in the end, I still had a caesarean delivery. The doctor said it was less than two centimetres. I am afraid to experience the same situation as previously. So I decide to have the same this time. (Negative experience with vaginal birth)

22-06 I'm afraid I will have the same problem as previous birth. The cervix kept less than 2cm and did not dilate. (Negative experience with vaginal birth)

Two women who had a negative experience with a CD were willing to attempt a VBAC. These two women reported that they were reluctant to have RCD because of the severe back pain and fear of anaesthesia from their last birth experience. The following quotes illustrate this sub-subcategory.
06-02 I felt that caesarean delivery is terrible because it needed anaesthesia and I felt terrible. (Negative experience with CD)

08-03 My back pain persisted for five months after the operation. My back couldn’t bend to change the baby’s diaper. (Negative experience with CD)

**Fear of vaginal birth**

Fear of vaginal birth was another factor influencing women’s decision. Two subcategories are identified, fear of uterine rupture and fear of pain.

**Fear of uterine rupture**

Some women were concerned about the issue of uterine rupture. They were fearful of uterine rupture associated with vaginal birth. Concern about the risk of uterine rupture in relation to the *interval between previous CD and this pregnancy* and *caesarean wound healing* was reported by women who had a strong intention to attempt VBAC. These women reported they had at least over a three-year interval between this birth and the previous birth and they were more willing to attempt VBAC. The following quotes illustrate the concerns about the birth interval and caesarean wound healing.

16-06 It had been many years since my last delivery, so it was okay to have a vaginal birth. Because I know for the caesarean delivery, it seems that you can’t have it naturally for three to five years. So we are mainly afraid of the uterus rupturing. For me it has been years, it should make no difference in principle.

11-02 Because I felt that this way was much safer. I am afraid that if the interval of wound is too close, it may cause problems at that time.
The following quotes illustrate the concerns about caesarean wound healing.

14-01 I had a caesarean delivery for my first baby so I thought this baby would have the same method with caesarean delivery. I fear.... the second baby with vaginal birth would have some risks if the first baby was born with caesarean delivery. Wound rupture or uterus would.... I did not know.

Fear of pain

Women were also fearful of not having the ability to cope with labour and birth because of fear of pain. A total of five women were reluctant to attempt VBAC because they were concerned about failure of VBAC leading to two experiences of pain. Of the five women, one woman did not undergo TOL and four women underwent unsuccessful TOL for their previous birth. Women were concerned they would experience the pain of a TOL and, in the event a CD was required, wound pain from the operation wound result. Examples of women’s views on this are provided below.

05-02 I am afraid the result would be the same; that is, I will experience the pain twice!

11-02 Because I felt that this way was much safer. I am afraid that if the interval of wound is too close, it may cause problems at that time. You do not need to have pain twice. I felt that safety was more important!

Evaluation of modes of birth

Women evaluated the different modes of birth and compared the pros and cons between CD and vaginal birth before deciding to have a RCD or a VBAC.

Positive evaluation
Some women stated that a vaginal birth is better than CD for mothers’ and babies’ health. They described a vaginal birth as beneficial for mothers and babies because postnatal recovery was quick, the baby was born through the stimulation of the birth passage, and there was a good chance for the mother’s body to adjust. In this study, three women had experienced births involving both a CD and vaginal birth; they were all determined to attempt a VBAC for the forthcoming birth, even though two of them were aged over 40 years. The following quotes illustrate their evaluations.

07-01 It is for the quick recovery. My first baby was by caesarean delivery and the second baby with vaginal birth. By comparison, I think the recovery is faster with the vaginal birth.

17-01 Because I had experienced vaginal birth and caesarean delivery! I think for the uterus contractions, caesarean delivery was not as good as that in a vaginal birth. On the other hand, I was older in this pregnancy so I think that I should make use of this chance to adjust to my body and let the uterus work ... because I know it is better for the uterus to contract while having a vaginal birth.

Some women had a CD based on the consideration of safety and convenience. CD from their reports was much safer and convenient than the uncertainty of vaginal birth. Two women intended to have RCD because they could schedule the time and the procedure was finished quickly. Examples are provided below related to the sub-subcategory convenience.

15-18 I felt this way is more convenient. You do not need to worry when there is a sudden and unexpected pain in the abdomen. I love things that can be done in accordance with a plan.

11-02 I felt that safety was more important!
Negative evaluation

Women compared the difference in pain and complications to evaluate the relative disadvantages between vaginal birth and CD. Pain was the most frequently cited negative influence on decision making offered by women. They stated that vaginal birth was associated with pain before birth while there was pain after birth with CD. The following quotes illustrate the sub-subcategory.

16-04 I approve of vaginal birth more, and because I had caesarean delivery before, I want to have vaginal birth even more. Because the caesarean delivery means you feel the pain afterwards, but for the vaginal birth, you feel the pain on the day of birth, and it’s okay afterwards. It is completely okay, right! For me, I am afraid of pain so I approve more of having a natural birth.

06-04 I would like to have vaginal birth. My colleague asked me: are you sure? It will be very painful? Compared to vaginal birth, I felt painful after caesarean delivery. I had pain for a long time after caesarean delivery.

When women compared the potential complications of the two modes of birth, they were concerned with the complication of adhesions if they had RCD, while incontinence was noted as a concern by women if they selected VBAC. The following quotes illustrate the sub-subcategory.

21-09 My main concern is that if you had a caesarean delivery once, on the second birth it would be more likely to get adhesions. The National Health Insurance does not cover adhesions. I also do not know whether my insurance covers this or not. Besides, someone said that you would have more chance to get a recurrence of them in the future. I also worry about that.

07-17 I really hope the hospital will pay more attention when I give birth. At that time, it did not just occur after birth, you see almost two years, and I still have that
kind of incontinence problem, I think it had a very far-reaching impact!

The scar of the previous CD was another negative factor influencing women’s decision to opt for a RCD. Several women stated that the previous CD did not heal well and made them feel uncomfortable. Therefore, they chose a RCD not only because they had had a CD last time and because they wished to fix the scar simultaneously. The following quotes illustrate this subcategory.

04-02 Because I thought that I did not take care of the previous wound well I wanted to make use of this operation to get it done once and for all. Because I did not take care of it well, a polyp came out. The doctor said it could be done, so I thought it was okay! Let’s have caesarean delivery. I thought if it could be fixed, I should choose caesarean delivery.

18-02 Caesarean delivery! Because I have had a caesarean delivery for the first birth so I would like to have caesarean delivery again. Also, I wanted the previous scar to look better; it was like a terrible earthworm. Maybe it was because I tended to have keloid scarring and it got thick and became a layer. It did not get itchy, but I felt uncomfortable when I wore underpants.

Current pregnancy

The conditions of the current pregnancy affected women’s decisions. In particular, if women wanted to have a VBAC, they were concerned about the foetal condition, including foetal presentation and size. Women who intended to undergo TOL continued to accept ultrasound examination before 38 weeks gestation to confirm foetal presentation and baby size. Three women had baby mal-presentation before 35 weeks gestation but they all turned to a cephalic
presentation between 35-38 weeks gestation. All three women continued to plan for a RCD because they reported that they had already made this decision. Women were also concerned about foetal size. They were concerned that they may not have VBAC if the foetus was too big. Examples of women’s comments in relation to the current pregnancy are provided below.

15-25 *It was about the 32nd week. The prenatal examination manifested abnormal foetal position. That was in the later period, so I just thought I should make an appointment to have a caesarean delivery now even though the foetal position was normal.*

17-19 *Actually, I was afraid more or less in my mind, and then based on the size of my baby, I was more worried. But I just wanted to see the baby’s condition because my baby was not big, and then I thought okay! Let’s give it a try.*

External Factors

There were two subcategories of decision-making influences that formed the category, external factors, namely information resources and health insurance (Figure 6-2).
Information resources

Women did not receive any formal written information regarding VBAC. Instead, they received information from several sources, including obstetricians’ recommendations, the experience of significant others, and internet.

Obstetricians’ recommendations

Of the information sources, obstetricians’ recommendations were a critical factor influencing women’s decisions. Eight women who decided to have a RCD were influenced by their obstetricians’ recommendations that once a caesarean has been performed then the next birth should also be a caesarean. Four women reported that they did not receive any explanation from obstetricians but they complied with their obstetricians’ choice. Examples of participants’ comments in relation to obstetricians’ recommendations are provided below.
13-01 Caesarean delivery! Doctor Z decided! It was not my decision. The doctor did not tell me the reason, doctor Z just took a look. Because my first baby was born with his assistance, he said caesarean delivery directly this time.

21-01 Because I had a caesarean delivery with my first baby! Then the doctor thought that pregnant women should not suffer another painful way of birth, so it was caesarean delivery again. The doctor told me it was based on the regulations of some medical association. They hoped that pregnant women did not have to suffer another way of pain. If the painful way failed, it meant the women had to take a caesarean delivery and not suffer the same pain.

The experiences of significant others

The experiences of significant others also played an important role in women’s decisions. Husbands did not influence a woman’s decisions. Some women made birth choices based on their significant others’ experience. Significant others included family members, friends and colleagues with a close relationship to the pregnant woman. Women’s family members in particular, their mothers, mothers in-law, sisters and sisters-in-law who had birth experiences were reported by participants to have more influence on women’s decisions than other female friends or colleagues. Although most significant others recommended that the woman have a vaginal birth because this mode was much better for the mother’s and baby’s health. The viewpoints of women’s friends and colleagues also impacted on their decisions, especially when they heard about the issue of uterine rupture or any accidents occurring during vaginal birth such as a cerebral haemorrhage. The majority of significant others judged mode of birth based on their previous birth choices. For instance, they recommended RCD because they
had a unsuccessful TOL. Examples of participants’ reflections on the influences of significant others are provided below.

05-15 *Because my elder sister had the same results with her first baby, she suffered bad pain twice, exactly the same situation. She wanted to have a vaginal birth the first time, thinking it was better for both baby and the pregnant woman. But she tried to have a vaginal birth and got the same result. I made the decision because I asked my elder sister (experienced families).*

15-14 *My husband was running a business so we met a lot of customers. The percentage we heard was a little bit high (uterine rupture). And for most customers, if they had their first baby with caesarean delivery, they would normally suggest having caesarean delivery again. No one suggested we have a vaginal birth (friends).*

04-20 *And I heard that some people were afraid of it (vaginal birth) because it was painful to the bone. Many of my colleagues, they all told me that (colleagues).*

Internet

Internet was a common way of women sourcing information independent of a health professional. Some obstetricians also asked women to search for relevant information on the internet. However, inaccurate and incomplete information on the internet contributed to women’s choice of RCD. Birth choice and uterine rupture were common issues the women searched about on the internet. On the internet, some women shared their experiences regarding birth choices and some of them either favoured VBAC or RCD, but most women on the internet stated that if you had the first baby by caesarean delivery, you should have a caesarean delivery for your second baby if the obstetrician makes this recommendation. In
addition, pregnant women were afraid to have a VBAC because descriptions of terrible experiences of uterine rupture were widespread on the internet. Examples of participants’ perceptions of internet influences are provided below.

11-11 I searched for information from the internet. Basically, the internet said that if you had your first baby by caesarean delivery, you should have a caesarean birth for your second baby.

03-06 Many internet rumours were spread that the wound may rupture before the birth and the water will come out or the baby’s hair will come out. Many opinions like that saying they put the baby and the mother at higher risk too.

Health insurance

Health insurance included National Health Insurance (NHI) and private insurance.

National Health Insurance

NHI reimbursed health care providers on a fee-for-service basis. For some women, the financial factor did not affect their decision for RCD because of the considerations for safety. The following quotes illustrate this sub-category.

14-13 The doctor said that the National Health Insurance would cover it.

02-10 If National Health Insurance did not cover, it would be very expensive. However, even under that situation, I would still choose a caesarean delivery because of the consideration of safety.
Private insurance

Private insurance has strict criteria of financial coverage for RCD in Taiwan, in contrast. Most private insurance did not cover RCD if women did not undergo a TOL. Although a few women agreed to have a RCD based on their obstetricians’ recommendations for consideration of safety, women were still upset their private insurance could not cover it. The following quotes illustrate this sub-category.

19-30 I have private insurance! The doctor said if you have an operation this time because of the previous caesarean delivery, it is not covered by insurance according to our insurance company.

05-30 I do not know whether the doctors are willing to write……, because that insurance coverage is different. I have paid private insurance for many years and it can only cover at this moment.

6.3.3 Decision-making processes of women

The decision-making process for women involved information searching, respecting obstetricians’ professional judgement, an evaluation of alternatives, and making a decision regarding mode of birth.

Information searching

Women sought relevant information regarding mode of birth from the internet, media or obstetricians and then discussed the options with obstetricians to confirm the mode of birth choice. Some (4/21) women did not receive any information regarding VBAC from obstetricians and they complied with a RCD arrangement because their obstetrician had scheduled a RCD for them directly without inquiring
about the women’s intention. The women accepted a decision for RCD in the first trimester of pregnancy. Examples of participants’ comments in relation to information searching are provided below.

09-36 At that time Dr X reminded me and said that caesarean delivery is better for me. Dr X had reminded me a little bit at that time. Dr X did anything but did not say reasons! I also did not ask him/her why.

11-01 Because my first baby was caesarean delivery, the doctor recommended me directly to caesarean delivery.

21-02 I did ask my obstetrician, is it for sure a caesarean delivery? Dr X did not say no, depending on the situations. So, Dr X did not clearly tell me a vaginal birth or a caesarean delivery.

Two women preferred a RCD and did not consider vaginal birth an option; although they had knowledge of alternatives from internet. Examples to illustrate their views on RCD are provided below.

15-12 The doctor asked me would you want to try labour pain. And I said that it is better ‘No’. I wanted to have the same mode of caesarean delivery.

18-09 My obstetrician asked me: would you like to select a vaginal birth or caesarean delivery? The doctor provided you with two modes of birth to allow you to choose it? And I said I would like to have caesarean delivery. Then, the doctor did not oppose or agree and just said that’s OK! Let’s have a caesarean delivery.

A total of 15 women reported they would like to have a vaginal birth if vaginal birth was possible. They not only searched for information on the internet but also sought obstetricians’ perspectives to confirm the possibility of VBAC.

03-04 I searched that on the Internet. Most people on the internet said it was better to choose caesarean due to the first caesarean section. In addition, my wound was a
l little bit low. So I was afraid of the position problem during the labour process.

Respecting obstetricians’ professional judgment

Although most women in this study wished for a birth as naturally as possible, a total of 13 women respected their obstetricians’ judgment regarding mode of birth and selected RCD at the second or third trimester pregnancy.

Despite wishing for vaginal birth, they believed it should be based on professional assessment. Only when experts approve it would they proceed. They trusted doctors more, as they were not so clear on the matter.

The explanation of risks about uterine rupture from obstetricians influenced women’s decisions. Compared to junior obstetricians, senior ones provided detailed monitoring systems, such as cardiotocography monitoring in case of emergencies. Junior obstetricians explained potential urine rupture risks, which women were reluctant to face. If vaginal birth was recommended, women were willing to endure the pain, as it meant they could avoid surgery. Conversely, if vaginal birth was doubted, women would seek caesarean delivery, despite its associated discomfort.

In summary, women respected professional judgments, valued detailed risk assessments, and were willing to endure the pain, prioritizing vaginal birth when it was deemed safe.
doctor’s judgment. The doctor still advised me to have a caesarean delivery.

Evaluation of alternatives

Women who would like to have vaginal birth evaluated the advantages and disadvantages of alternatives, the conditions of themselves and their unborn baby, and obstetricians’ professional recommendations to decide whether they would have a VBAC. In particular, women evaluated considered their birth interval, current pregnancy, foetal presentation and estimated foetal size. Some women chose RCD to avoid uterine rupture. In contrast, women who were willing to have TOL reported the same proportions of risks between VBAC and vaginal birth, over a five-year birth interval between the current and the previous birth, or a well-equipped medical centre to manage emergency situations. These women were confident with vaginal birth and had a positive evaluation on vaginal birth. Examples of participants’ comments in relation to evaluation of alternatives are provided below.

2-08 If this baby is at an interval of five years, and if there are no varicose veins or anything else, I still want vaginal birth! However, the interval time is really short, and I have this condition currently, there is no way.

06-06 Doctor said I can have a vaginal birth, and my baby presentation is normal and everything is fine.

03-55 I probably knew that in my mind, but I still hoped there might be a chance of having natural birth. It kept coming to my mind, but after the assessment of doctors, okay! I just listened to what the doctors said, right! I tried my best to lower the risk, safety first!
Making a decision regarding mode of birth

Women made a decision of RCD/VBAC after evaluation of alternatives. A total of twelve women intended to have VBAC before birth. Eight women decided to have a RCD after considering the condition of mother and foetus or once the risks were explained by obstetricians.

02-29 He/she (Dr.) just said that I should tell you some of the risk, tell you in advance. Then I can think about it. So, I felt that caesarean birth is OK.

06-13 He/she (Doctor) said that it is up to me. If I make a decision to have a natural birth, he/she is fine as the thickness of wound was OK.

In fact, women who intended to give birth with CD made a decision for CD first and then selected an auspicious time for the operation. The operation time and date was scheduled after discussion with their obstetricians. Women who intended to have a VBAC reported that the auspicious time is the time that the baby selects to be born. One woman had even wanted to change the mode of birth from CD to vaginal birth because her family argued about the auspicious time for CD. Examples from women are provided below.

10-21 Since I decided to have a caesarean birth, I select an auspicious time then. I thought that I could have a look because it was available.

18-25 I made a decision for caesarean delivery first and then I asked my mother in law to consult an auspicious day. She (my mother in law) said that if the decision was caesarean delivery, we should select an auspicious day.

09-05 The doctor smiled and said how the decision was suddenly changed... I told him some of my family situations. Because we continually were asking others to consult horoscopes for the baby, it was not so good (to bother them too often). And
there is an urgent need to make a decision about the time because the estimated date of birth is coming soon, and then they are still consulting horoscopes. That is really too rushed! I really do not know how to select the time; I want the baby, himself, to select an auspicious time out.

6.4 Findings from Phase II Stage 3 - postnatal women’s interviews

The postnatal interview was scheduled a month after birth. The majority of women were interviewed in the visiting room of Outpatient Department of the Department of Obstetrics and Gynaecology. One postnatal woman was interviewed at her house, in accordance with her request. A total of 21 women completed the postnatal interview. Before birth, nine women (43%) planned a VBAC and twelve (57%) women intended to give birth with a RCD.

Of the nine women planning a VBAC, three women who were in their third pregnancy gave birth with VBAC; another two women achieved successful VBAC; two women planned a VBAC but then scheduled a RCD because labour did not commence spontaneously by 38 weeks gestation; and two women experienced an unsuccessful VBAC as their labour course progressed slowly. Of the twelve women planning to give birth with a RCD, all women delivered their second baby with RCD (Table 6-3).
Data consisted of 747 statements. Postnatal women evaluated their decisions regarding mode of birth in three areas, reflection on birth choices, reflection on factors influencing decisions, and reflection on outcomes of decisions. Postnatal women’s reaction to their decisions on mode of birth included satisfaction/dissatisfaction, acceptance, regret and unresolved questions (Table 6-4).

### 6.4.1 Reflection on birth choice

Postnatal women reflected on the process of VBAC to evaluate why they had a successful VBAC or why they had an unsuccessful VBAC. Of the nine women planning a VBAC, five achieved a vaginal birth and four women experienced a RCD. After birth, women reflected on their preparation for a VBAC in order to understand the underlying reasons for the mode of birth outcome. Seven women planning a VBAC exercised every day and controlled their body weight in order to increase the chance of achieving a VBAC.

*01-29 Basically, I walked to my office every day. Because I thought if I would have a vaginal birth, this would be quicker by taking more exercise. I took exercise every
day by climbing stairs and taking elevators and climbing stairs up to my office. But I
was the same and I was still only dilated 1 cm. It was a waste of my efforts. It
seemed all my previous efforts had been in vain. (Woman had an unsuccessful
VBAC)

16-46 Yeah, yeah! And a tip for vaginal birth was that you have to do exercise more.
For me, it was more convenient because I lived upstairs; I climbed stairs every day.
(Woman had a VBAC.)
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Women carefully monitored for signs of labour to evaluate whether the labour had started, including a bloody show, water breaking, and labour pains. Two women who were overdue became very anxious when labour signs did not occur.

01-26 At that time I was 40 weeks gestation already. When it was one day after 40 weeks gestation, I had a bloody show. I went to hospital for an internal examination but the result was that I was 1cm only. (Woman had an unsuccessful VBAC.)

08-01 My estimated date of birth was over three days earlier and I started to have the condition of a bloody show. After that, the baby movement was decreased so I went to delivery room. I felt panicked and anxious when I was overdue. I was wondering why I did not have labour signs. (Woman had an unsuccessful VBAC.)

Postnatal women monitored their labour progress in reference to cervix dilation. Three women reported that induction and pain relief were used. Two women who were overdue and were induced were unsuccessful in their attempt at VBAC. Postnatal women who had a successful VBAC reported the labour course was fast considerably. The following quotes illustrate participants’ reflections on the labour progress.

06-31 At the day of the estimated date of birth, I saw a bloody show but there was no water breaking. So I did not rush to hospital because I did not feel much pain. When it was midnight, the pain was getting stronger so I went to hospital. (Women had VBAC.)

07-23 My water broke at 2pm. Then, my father hurried to drive me to hospital. I was sent to the delivery room at 15:31. But you guessed it. You said that I would be ready very soon for birth. (Woman had a VBAC.)

01-13 One centimetre, one morning for only one centimetre. Yeah, normally there
should be pain when uterine contractions occur. I saw other pregnant women crying but I felt okay without too much pain. I was worried if I would fail. So I made a decision for a direct caesarean delivery. (Woman had an unsuccessful VBAC.)

17-22 I had induction for eight hours. After nine hours, it was getting faster. I was 3cm in nearly nine hours, but afterwards I was getting faster and I was fully dilated in half an hour. (Woman had a VBAC.)

Fourteen postnatal women who had RCD reflected on the differences between their previous and most recent CD. Some women had experienced labour signs such as cervix dilation or water breaking but they did not change their decisions to have a RCD.

11-46 I already had some pain naturally. After the water had broken at hospital, I started pain then. It occurred about half to one hour after the water had broken. About 4:5am, the obstetrician came and performed an operation. They said that I was 2 and half cm at that time. [But you were still afraid to try VBAC?]. I was afraid to rupture the wound. (Woman had a RCD.)

15-37 My baby, the little girl, she almost jumped out at that time because I started having uterine contractions already. I wanted to fix the scar of caesarean delivery - even though the pain had started I did not want to have a vaginal birth. (Woman had a RCD.)

Postnatal women who had RCD reflected on their experience of an operation for their primary caesarean delivery compared with the RCD. Anaesthesia was the most frequent reported for women regarding their experience of an operation. Some women underwent two different kinds of anaesthesia, general and epidural anaesthesia for their primary CD and/or RCD, respectively. Compared to general anaesthesia for previous CD, women who had RCD with epidural anaesthesia
were afraid to have RCD again because they believed they would still have
sensation. Conversely, one woman who had VBAC was satisfied with her choice
because she did not need to have any anaesthesia.

14-23 The doctor was scheduled for me with the first operation and then performed
a caesarean delivery directly. Last time, I did not have any feelings; I was entirely
asleep. But this time, I had feelings and felt quite terrible. (Woman had a RCD.)

15-32 Because I was waiting for the operation for a long time, the effect of
anaesthesia may have decreased a little bit. It felt pain during the interval of waiting
time and I don’t know if that’s because the dose was not enough or because I waited
a long time. (Woman had a RCD.)

6.4.2 Reflections on factors influencing decisions

After birth, postnatal women reflected on their birth decisions from two areas
of influence, namely internal and external factors. A total of 17 postnatal women
reported that they made their mode of birth decision by themselves because they
were the individuals responsible for giving birth.

03-40 Doctors should not have so much influence on me. For caesarean delivery ...
I did not know. Because I did it so, I did not think so much! It was based on the
doctor’s assessment. And I quite agreed with his ideas, so I did it like this. (Woman
had a RCD.)

05-41 My sister and my colleagues are almost the same. If their first child was
caesarean delivery probably their second child was caesarean delivery like this. So I
thought I could have it...! But the decision was on me. Because of my previous
experience, I decided to have caesarean delivery for my baby (Woman had a RCD.)
Obstetrician advice was the main factor influencing a woman’s decisions. Some women in the study stated their obstetricians did not provide them with any information to help them make birth choices but they complied with obstetricians’ recommendation to have RCD. They expressed their fear about asking questions of their obstetricians because the obstetricians had many patients waiting for consultation.

19-47 The doctor! I was that kind of person! What doctor told me, that method, I just followed what he said? (Woman had a RCD.)

10-47 The doctor was too busy. When you asked him questions, he just briefly understated it, telling you in just a few words. He could not answer all your doubts. (Woman had a RCD.)

21-76 I usually do not inquire from doctor about what I want? What method I want, I will not! Because I think his arrangements are OK! You cannot have too many questions. You have too many questions he might….But if he is in a good mood then he would not be like that! That was really poor for women. (Woman had a RCD.).

09-69 Because the doctor was very busy, we did not ask much. I did not have that knowledge so I think it should be like that! (Woman had a RCD.)

No women reported receiving written information from the hospital regarding various options for mode of birth. The target hospital just offered information regarding general antenatal and postnatal care. One woman who experienced an unsuccessful VBAC attributed her failure to poor information provision.

08-58 I felt the information was not sufficient! (Woman had an unsuccessful VBAC.)

08-66 If I could not have vaginal birth what options could I choose? For instance, you can go home to wait for labour signs. This is an alternative to let the patient
know about. Instead, they should not just tell us you could not have vaginal birth so direct caesarean! (Woman had an unsuccessful VBAC.)

Postnatal women reflected on whether the information provided to them affected their decisions. Some reported that they did not seek information because they already had experience from their previous birth. Others stated they received information from obstetricians or from the internet. Some postnatal women argued that the internet provided a variety of information and women’s experience sharing and this information was helpful for them to make birth choices, while others expressed confusion with different information.

03-48 On the internet, there were professional doctors; some from the Maternal Association also provided channels that allowed you to consult or answer questions. So I think they are quite clear. (Woman had a RCD.)

13-65 If you need information you can find it on the internet. Like I said before I was not suitable for vaginal birth because I had checked the information. (Woman had a RCD.)

16-61 You listen to a variety of opinions and you don’t know whom to listen to internet. They are all experience sharing. But if we consult the professional doctors, it might be better because some people don’t even know whether they should ask or not. Or actually sometimes during the examination, the prenatal examination, actually often after the examination, they find a lot of questions that they haven’t asked. (Woman had a VBAC.)

6.4.3 Reflection on outcomes of decisions

Postnatal women reflected on the outcomes of their decisions regarding mode of birth. All postnatal women were happy with their baby’s health and
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wellbeing after birth except for one woman who experienced an unsuccessful VBAC. These women reflected on their decisions from the perspectives of their recovery and their baby’s health at birth. Postnatal women compared their previous birth experience with their most recent birthing experience and the recovery afterwards. Women who had VBAC seldom expressed the discomfort of body change because they had recovered within a month after birth. Postnatal women giving birth with RCD reported the discomfort of body variations including: body strength and vigour; after pains/uterus contraction pains; back pain; wound pain; infection; urination /urinary catheter, and mobility.

Postnatal women compared their physical strength and vigour associated with their previous birth to the current birth in order to evaluate their body recovery. Five postnatal women who gave birth with a VBAC reported the recovery of physical strength was quick. Compared to women who birthed vaginally, women who had RCD stated their body recovery was slow.

02-39 I still felt weak but it was much better. This birth was much better than previous birth. (Women had RCD.)

17-03 Physical strength was really different! Body recovery was pretty good. One month after birth, I felt good. My physical strength and vigour were good. (Women had VBAC.)

In the postnatal period, women described the pain of uterine contractions after giving birth and those who had a RCD compared to the after-pains between this birth and the previous birth. They reported that after-pains in this birth was much worse than the previous occasion. Women who had VBAC did not mention after-pains.
04-30 The pain of uterus contraction for this time was longer, much longer than last time. They said that the second baby had slow contraction or something… It was much more painful than the previous birth, persisting for a month. It was persisting longer than the last birth. I had no pain after I went home for one week (Woman had a RCD).

09-52 I found that the uterus contraction pain really hurt this time after caesarean delivery. (Woman had a RCD).

Back pain was the most frequent pain recalled by women who had RCD.

Some women attributed the pain to epidural anaesthesia or to holding their babies.

04-38 After having the epidural injection, I had no feeling at all the previous caesarean delivery. But this time I still had the feelings of pain after the injection. So I still felt back pain for two weeks after I went home. I still felt back pain for two weeks, very uncomfortable. (Woman had a RCD.)

15-48 I had severe back pain. I thought it was related to the spinal cord anaesthesia. It was much more painful than the previous birth, very painful. (Woman had a RCD.)

Postnatal women who had episiotomy for vaginal birth did not report wound pain. Compared to vaginal birth, postnatal women who gave birth by RCD had severe wound pain on abdomen after birth.

03-31 I was still hurting after I had pain relief. That part of the wound was still hurting. I felt useless; I felt it was the same. I was in constant pain. I felt that the part of wound was persistently painful. (Woman had a RCD.)

06-52 At the time I was discharged, my wound was sutured. After the wound was sutured for a week, I walked like a penguin. Then, I walked much better after a week. It was not so painful. If I had caesarean delivery I have to care for my wound. My
movements cannot be too big. That means I need to care for the wound for more than a month. But now, I can move freely. (Woman had a VBAC.)

Women who had RCD described the discomfort of the urinary catheter and evaluated the recovery of urinary function. Compared to women who had RCD, women who had VBAC were happy they did not need to have a urinary catheter inserted.

21-12 I had to force the urine out, but I did not pee a lot. So I knew the Foley should not be pulled out so early. You should wait at least three days and then pull it out. (Woman had a RCD.)

07-61 This birth I had been asking: would you be inserting a catheter? I did not want it. I’d rather pee in bed or anything. I just did not want to be inserted with a catheter! They said: No, we won’t give you a catheter. But I still worried about it. Finally, I was sure they would not! (Woman had a VBAC.)

Women who had a vaginal birth reported they could get out of bed quickly while women who had RCD stayed in bed for longer. Women who had general anaesthesia could get out of bed earlier than those who had epidural anaesthesia.

16-36 I just gave birth at that time. Of course it was painful, but the pain was OK after completing. After that, about rest, I delivered my baby at noon of that day and then I probably got out of bed at night, going down slowly. I did not need to stay lying in bed. If you have a caesarean delivery, there is really no way you can walk down next day (Woman had a VBAC.)

12-55 I had general anaesthesia for my first baby and I could get out of bed the next day. But this time it was very different. (Woman had a RCD.)
6.4.4 Contentment with their decisions

The evaluation of mode of birth among postnatal women varied slightly. Satisfaction/dissatisfaction, acceptance, regret and unresolved questions regarding their modes of birth were stated by postnatal women.

Satisfaction

Five postnatal women who had a successful VBAC were satisfied with their decisions. Some women who had RCD were satisfied with the outcome of the RCD procedure, repair of the caesarean wound and pain control.

06-49 Except for the severe pain, satisfied! But they already told me that vaginal birth could be very painful. So, I had psychologically prepared. (Woman had a VBAC.)

07-34 Satisfied! Because the labour course was short, I felt my body recovery was OK! Everything was smooth! I can’t say more! (Woman had a VBAC.)

19-46 Satisfied! Pretty good. Right! Because it really hurt when I delivered my first baby, but this time it felt less painful and much better! (Woman had a RCD.)

18-01 Basically I was satisfied. It was less painful and it was quick. For example it took less time for surgery. It was finished so quickly, unlike the vaginal birth, you have to push hard for a long time. (Woman had a RCD.)

Dissatisfaction

Two postnatal women experienced an unsuccessful VBAC and one of these women was dissatisfied. However, they reported that they did not receive sufficient support from obstetricians during the TOL.

08-45 Dissatisfied! I just thought it was safe at least. But I think the procedure seems not to be explained clearly. I also felt uncomfortable at that moment! (Woman
had an unsuccessful VBAC)

08-56 I lived in a two bed room. When I saw the women who was next to me who had vaginal birth had freedom of movement, I really wanted to cry at that time. I just felt that if I could have had a vaginal birth, my body recovery.... Just like the mum in the next bed, if no one had said anything, nobody would have known she had just finished giving birth. It was so different. (Woman had an unsuccessful VBAC.)

Acceptance

Several postnatal women desired a VBAC but underwent a RCD. Despite the result, they reported that they accepted their decisions in hindsight because of its perceived safety.

03-33 We have to take the baby’s safety as first priority, the mother’s pain means nothing because we could take medicine or have some rest afterwards to recover, right! But for the baby’s health, if something happens to him / her, actually we will be more afraid. So we took the baby into our main consideration. Therefore we won’t regret it. (Woman had a RCD.)

21-30 It was okay! It just felt more painful but I did not regret having the operation. Because I only thought as long as the baby could be delivered successfully, it doesn’t matter whether it was vaginal birth or caesarean delivery. So the safe delivery was more important. (Woman had a RCD.)

09-51 According to the decision for caesarean delivery, I can accept it. After all, I did not have vaginal birth. I had two caesarean deliveries.

10-37 I felt I can accept it! I did not feel regret! (Woman had a RCD.)

01-64 Yes! I can accept it! Because I felt that it was similar to my thought. Because I felt that the medicine (induction) was useless for me. (Woman had a RCD.)
Regret

Despite the outcome, some women reported that they were regretful that they gave up having a TOL too early. If they had insisted on a TOL, they believed they may not have needed to have a primary caesarean delivery and may not have needed a RCD for this birth.

02-23 If it was the first baby, I would regret for it for sure. If I could have insisted a little bit for the first baby, I actually wanted to have a vaginal birth, but I did not have any experience. And the doctor did actually give me an induced labour, and then the doctor suggested caesarean delivery, so I just had it. Then the heartbeat and the pulse remained normal, I could have hung on for one or two days, but under the doctor’s suggestion, we did not insist for ourselves so I underwent the caesarean delivery. (Woman had a RCD).

21-47 This part I felt regret. I felt if the first time birth... the doctor had so many cases and he wanted to deal with the next case after completing a case. This may have led to... I did not have.....I was so anxious too. When I saw the baby was 3800gm already, I was very nervous. So I was hurried to birth. Doctor Y was hurried to delivery as well. Both of us were in a hurry. (Woman had a RCD).

Unresolved Question

Despite acceptance of the outcome of RCD, one postnatal woman questioned the mode of birth and doubted the necessity of RCD; however, she did not ask her obstetrician to clarify this matter.

19-61 So if you thought there was no other reason, and this baby was normal why couldn’t you write that for me? But why did you not suggest my having a vaginal birth? I doubted it, but I did not cast the doubt to the doctor for it, right! (Woman had a RCD.)
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19-64 The private insurance did not cover it. Before I gave birth, I had already been told so I just let it go. But I always doubted it. I don’t want you to make it up, I just want you to write down the assessment about why I needed to... why they suggested having the operation. (Woman had a RCD)

19-65 That meant you have assessed it, I just hoped you could write it that way. So actually it’s like that...if you don’t want to write it down, that means you think the risk is the same. I mean the risk afterwards. I myself was thinking about this.

(Woman had a RCD.)

6.5 Summary

In the main, Taiwanese women made decisions regarding mode of birth to ensure the safety of themselves and their baby. Women’s decisions about mode of birth following a primary CD were influenced by both internal and external factors. Internal factors included the individual’s knowledge, beliefs and values, and birth experiences, such as previous birth experience, fear of vaginal birth, evaluation of modes of birth, and current pregnancy. Previous birth experience was the most frequently cited internal factor. Women selected the same mode of birth if their previous birth experience was positive. On the contrary, they chose a different mode of birth if they had a negative previous birth experience. Concern about uterine rupture was a critical factor influencing women’s personal decisions. Some women made a decision to have a RCD because of their caesarean wound. Some women made a decision for RCD not only because of a previous CD but because of factors such as wishing to have a revision of the scar.

External system factors influencing women’s choices included information sources (obstetricians’ recommendations, the experience of significant others and
the internet) and health insurance (National Health Insurance and private insurance). The internet was the main source of information. Most women received risk information regarding VBAC from the internet. Some women did not receive any written information regarding VBAC from obstetricians. Inaccurate and incomprehensible information about VBAC risk on the internet contributed to some women deciding on RCD as their mode of birth.

Decision-making among women varied slightly. Women made decisions regarding mode of birth using a four step decision-making process, including information searching, respecting obstetricians’ professional judgment, evaluation of alternatives, and finally, making a decision regarding mode of birth. Although most women wished for a birth that was as natural as possible, they chose RCD after the risk of uterine rupture had been explained by their obstetricians. Pregnant women who were willing to attempt VBAC justified it on the basis of there being the same proportions of risks between VBAC and vaginal birth, or a well-equipped medical centre to manage emergency situations.

Timing of decision-making between individual women varied greatly. Some women made a decision for RCD during the first trimester of their pregnancy on the basis of obstetricians’ recommendations. Others selected mode of birth during the second or third trimester of pregnancy. Once a woman decided on her mode of birth, she selected an auspicious time for the operation or waited for the baby to select an auspicious time to be born. Of the women who participated in this study, sixteen had a RCD and five had a VBAC. Half the postnatal women were satisfied with their decisions regarding preferred mode of birth, while a third of women
accepted the outcome because of its perceived safety.

In the next chapter, a discussion about decision-making regarding mode of birth for women who have had a previous CD is presented.
Chapter Seven

Discussion
CHAPTER SEVEN: DISCUSSION

7.0 Introduction

This chapter presents a discussion of the study’s findings. The chapter is divided into three sections. Section one presents a discussion of the main findings emerging from the observational and interview components of the study and these findings are discussed in relation to the literature. Section two presents an interpretation of the findings using selected theories. Finally, a decision-making model regarding mode of birth following a primary CD is presented and explained in section three.

7.1 Main findings

The overarching theme arising from this study was one of risk management. Ensuring the safety of mother and baby was the focus of both obstetricians’ and pregnant women’s decision-making. Birth choices were made before the birth of the child in either a directed approach by obstetricians or through a process of guided decision-making. Reducing risk of uterine rupture was the main concern for obstetricians and for some pregnant women.

7.1.1 Factors influencing obstetricians’ decisions

While shared patient/obstetrician decision-making is an aspirational
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framework for health care decision-making, the predominant approach observed in this study was obstetrician-directed mode of birth choice. Not surprising, the findings demonstrated that obstetricians were a critical factor influencing women’s decisions as obstetricians have dominated maternal care for over two decades in Taiwan. Obstetricians’ decisions were influenced by both internal and external factors.

*Internal factors*

Attitudes towards supporting VBAC

Heuristics or probability judgments (short cuts, rules of thumb) are a mode of reasoning involving the use of inference to inform decision-making (Cioffi, 1997). Health professionals usually estimate a subjective probability (heuristics) from personal experience. However, heuristics and cognitive bias may result in diagnostic error (Croskerry, 2003, 2005, 2009). In the current study, some Taiwanese health professionals used heuristic strategies during the decision-making process and as a result their cognitive bias limited women’s choice for VBAC. The majority of less experienced obstetricians evaluated the risk of uterine rupture based on a small proportion of their colleagues’ experiences or their own personal experience. These obstetricians appeared to overlook the needs of individual women and were less motivated to offer VBAC.

Despite knowing the prevalence of successful VBAC, most less experienced obstetricians were more supportive of CD than VBAC. These obstetricians
reported the level of risk associated with VBAC and this was associated with negative attitudes towards VBAC. The majority of less experienced obstetricians frequently recommended RCD for women and limited women’s choice of other alternatives. Obstetricians should understand heuristic thinking and cognitive bias which is useful to assist women opting for VBAC.

In addition, less experienced obstetricians made claims about the wellbeing for mothers and babies associated with RCD and seldom mentioned the associated mortality and morbidity risks of anaesthesia and surgery. Arguably, these obstetricians provided a biased view of the information of the benefits and risks regarding CD for women and recommended women opt for RCD. Croskerry (2003) reported that health professionals tend to opt for diagnostic decisions that will lead to good outcomes, rather than those associated with bad outcomes (outcome bias) (Croskerry, 2003). Compared to less experienced obstetricians, both more experienced and director-level obstetricians described an equivalent level of uterine rupture with VBAC and vaginal birth, and more positively supported VBAC. These obstetricians used analytical methods or deliberate calculations (such as measurement of the thickness of a uterine scar or a calculated uterine rupture risk rate and VBAC success rate) in their judgements of risk. Such analytical methods whether accurate or not were helpful for women and obstetricians in deciding whether or not to attempt VBAC.

A dual process theory of reasoning helps to further explain obstetricians’ decision-making strategies (Croskerry, 2009). This meta-cognitive strategy
provides a systematic approach to cognitive root-cause analysis in order to avoid adverse outcomes in the clinical management of specific cases (Croskerry, 2005, 2009). The theory addresses two types of cognitive thinking processes to explain human reasoning. Type 1 processes depend upon a series of cognitive operations, including the use of heuristics or intuition. Type 2 processes are deliberately used to solve decision-making problems in a systematic, analytical way (Croskerry, 2009). As particular approaches are appropriate for particular situations this model helps explain where and how in the process, diagnostic failures occur (Croskerry, 2009). Birth choice is a dynamic, complex and deliberate process of decision-making, and may involve both types of decision-making dependent on timing and circumstances of the decisions. Less experienced obstetricians were more likely to demonstrate Type 1 processes (heuristics) resulting in recommendations for women to opt for RCD and increased unnecessary caesarean deliveries. Conversely, the Type 2 process was more likely to be applied by more experienced obstetricians. They informed women about alternatives and assisted women in making a choice in favour of VBAC.

*External factors*

**Medical malpractice**

Concern about medical malpractice has been positively associated with RCD rates and negatively associated with VBAC rates (Cox, 2011; Yang, Mello, Subramanian, & Studdert, 2009). Medical malpractice was the main external factor influencing obstetricians’ decision-making in the present study. In Taiwan,
the obstetrics and gynaecology fields have accounted for a high proportion of medical malpractice cases (Pan, 2006). In the present study, the majority of less experienced obstetricians were less motivated to offer VBAC. These obstetricians tended to recommend RCD to women in order to decrease the risk of uterine rupture and to avoid malpractice litigation. According to Studdert et al. (2006), one third of malpractice claims they examined did not involve clinical errors and most of these claims went unpaid (Studdert et al., 2006). However, although obstetricians and gynaecologists were the most frequently sued physicians in some countries, the numbers of malpractice claims that have resulted in compensation are relatively small (Studdert et al., 2006). In fact, medical malpractice usually resulted from poor communication skills or ineffective communication (Hickson & Jenkins, 2007; Schleiter, 2009).

A good patient-physician relationship enhances trust. The converse is well evidenced; continuity assists in the development of trust and provides a good relationship. In contrast, a weak relationship affects patient care negatively and puts a physician at higher risk of being sued for medical malpractice (Schleiter, 2009). In Taiwan, as a result of heavy workloads, some obstetricians neither explain risks and benefits regarding various birth choices nor inform women about alternatives. Meanwhile, some pregnant women were fearful to ask obstetricians questions because of perceptions about the obstetricians’ time constraints. Such one-way communication between obstetricians and pregnant women could increase the potential for unpredicted lawsuits in Taiwan. This phenomenon has also been documented in previous studies (Falker, 1997; Roter,
Patients reported spending less than ten minutes with their obstetrician during each visit; they felt rushed or ignored and frequently reported inadequate explanations for tests. Time limits of less than ten minutes for each consultation have been shown to increase obstetricians’ vulnerability to lawsuits (Falker, 1997; Roter, 2006).

In the present study, some Taiwanese obstetricians carefully selected potential candidates for VBAC in order to decrease the risk of uterine rupture and to minimize their legal risks. To date, Taiwan has no established VBAC guidelines. Despite this, some obstetricians chose not to lobby for the establishment of VBAC guidelines arguing that guidelines could not ensure patients’ safety. Thus, individual obstetricians adopted their own criteria to identify potential candidates for VBAC, which appears to limit Taiwanese women’s opportunity to opt for VBAC. This finding is similar to that of a recent study conducted in the United States using semi-structured interviews, Cox (2011) found that obstetricians and midwives avoided offering VBAC because of fear of liability. These health professionals were highly selective in choosing potential candidates for VBAC (Cox, 2011).

The 24 hour system of the designated obstetrician

In the present study, the 24 hour system of the designated obstetrician appeared to reduce the number of obstetricians offering VBAC. In Taiwan, the designated obstetrician system is employed in public and private medical centres, metropolitan hospitals and local community hospitals. Obstetricians provide a 24
hour birth service, which is similar to the system in private hospitals in western countries. In this system, obstetricians receive calls at any time and from anywhere within the hospital. The unpredictability, in terms of timing, of vaginal birth and the potential for exhaustion of health professionals leads some obstetricians to recommend and perform RCD to enable them to get rest at night. Australia has public and privately funded maternal care systems with many different models of care. According to a recent qualitative study conducted in the Australian public health system, some obstetricians provide women with time to discuss their intentions for mode of birth (McGrath, Phillips, & Vaughan, 2010). However, in the public system, women had consultations with different obstetricians at each clinic visit and had to navigate a wide range of inconsistent attitudes and information (McGrath et al., 2010). An obstetrician-led model of maternal care does not seem to meet needs of some Australia pregnant women and Taiwanese obstetricians.

Recently, a series of reports and studies regarding midwife-led care were published in the Lancet (2014) (Homer et al., 2014; Horton & Astudillo, 2014; Renfrew et al., 2014; Sakala & Newburn, 2014; Stones & Arulkumaran, 2014; Suzuki, 2014; Ten Hoope-Bender et al., 2014; Van Lerberghe et al., 2014). Compared to obstetrician-led maternal care, midwife-led care has been found to reduce CD rates and unnecessary medication intervention, and provides a higher quality of maternal care (Renfrew et al., 2014; Suzuki, 2014; Ten Hoope-Bender et al., 2014). Similarly, randomised controlled trial findings indicate that midwifery-led care for women at low obstetric risk in early pregnancy shows
promise for reducing CD (McLachlan et al., 2012). In Taiwan, less than 1% of midwives are currently practicing because an obstetrician-oriented birth environment exists. In the present study, some obstetricians were exhausted due to the high numbers of clients; midwife-led care is one potential solution for decreasing the workload for obstetricians and such a model may influence the current high RCD rates in Taiwan. Midwifery continuity of care allows women to develop a relationship with the same caregivers throughout pregnancy, birth, and the postnatal period. This trusting relationship increases women’s confidence in opting for VBAC (Homer et al., 2013)

The policy of National Health Insurance scheme

At present National Health Insurance (NHI) scheme has a policy of equivalent fees for vaginal birth and CD. In the current study, the financial incentive did not motivate obstetricians to offer VBAC, whereas in the past there were financial incentives to reduce CD rates in Taiwan and other countries. However, the effects in Taiwan have been limited since NHI proposed equivalent fees for vaginal birth and CD (Hong & Linn, 2012). In the present study, obstetricians reported that financial incentives cannot compensate for the high costs of malpractice claims, so changing the policy may not reduce CD rates. However, some policy changes may offer other benefits. The government of Western Australia initiated an innovative policy - the next birth after caesarean (NBAC), to improve women’s birth experiences and to reduce RCD rates. The NBAC policy focused on planned RCD, aiming to increase VBAC rates (Department of Health WA, 2007). Martin et al. (2014) evaluated the impact of
implementation of the NBAC policy on practice (Martin et al., 2014). Although a significant decrease in RCD rates was not observed, women were satisfied with care and there was a significant increase in birth self-efficacy (confidence) in the NBAC group (Martin et al., 2014). While women had increased confidence in vaginal birth, they were more willing to undergo a TOL and discuss their choices with their obstetricians.

Another policy of Taiwan’s NHI coverage for RCD was also responsible for low VBAC rates. In Taiwan, private insurance provides the financial coverage for RCD following a strict assessment of TOL. Compared to private insurance, NHI offers the coverage for women without the need to have a TOL as long as they have had a previous CD. The varying criterion for coverage allows obstetricians and women to readily make a decision for RCD. This demonstrates the influence of policy on clinical practice decisions, which resulted in a reduction in the number of obstetricians offering VBAC as well as decreasing women’s motivation to attempt VBAC. Similarly, related to policy regulating VBAC guidelines in the USA in the past decade have seen the VBAC rates decline dramatically (Cox, 2011). In 1999, the VBAC guideline stated that TOL after caesarean should be performed only in institutions equipped to respond to obstetric emergencies and in settings where obstetricians are capable of performing VBAC and are "immediately available" to provide emergency care (ACOG, 1999). However, only some institutions were able to comply with these requirements, thereby limiting obstetricians and midwives in offering VBAC (Cox, 2009, 2011). These examples illustrate the impact of policy on clinical practice and maternal choices.
In conclusion, ensuring the safety of mothers and babies and avoiding medical malpractice claims were the main concerns for obstetricians when assisting women making a decision regarding mode of birth. However, women’s birth choice should not be solely focused on physiological safety but also include the fulfilment of psycho-social-spiritual need.

7.1.2 Important factors influencing women’s decisions

Although concern for the health and wellbeing of mother and baby determined women’s decisions about birth choice, several psycho-social factors also influenced women’s decisions. Women’s decisions were also influenced by internal and external factors.

Internal factors

Previous birth experience

Previous birth experience influenced women’s decision to opt for either VBAC or RCD in the present study. Several studies have demonstrated that previous experiences such as TOL, RCD and CD influenced decision-making in women who had had a previous CD and these experiences have been found to affect women’s subsequent birth choice (Fisher et al., 2006; Kringeland et al., 2010; Moffat et al., 2007; Nilsson, Bondas, & Lundgren, 2010; Shorten & Shorten, 2012)

In the present study, Taiwanese women who had a positive experience selected the same mode of birth as their previous birth, while women who had a
negative experience chose a different mode of birth. These findings are similar to those of a recent study, in which 85% of women who had an RCD stated they would make the same choice again, compared to 70.1% for the planned VBAC group (Shorten & Shorten, 2012). The importance of birth experience was also highlighted by Fisher et al. (2006) who found that while women who had had a good experience in previous births were conscious of the uniqueness of each birth, women who experienced a previous ‘horror’ birth did not attach the same uniqueness to the experience (Fisher et al., 2006).

In the present study, three women who had a satisfactory experience of vaginal birth had a strong resolve to attempt VBAC. A satisfactory experience of vaginal birth increased women’s confidence and was helpful for women in attempting VBAC. Two women had had a positive experience in their previous CD, they therefore insisted on the same mode of birth in their subsequent pregnancy. Safety and the ability to schedule a convenient time for RCD were the most frequent reasons cited by these women.

In contrast, in the current study, eight women underwent an unsuccessful induction of labour and TOL in their previous birth. With an unpleasant or unexpected previous negative experience of birth, these women lacked confidence to select the same mode of birth for their subsequent pregnancy. Similarly, two women had strong desires to attempt VBAC because of epidural anaesthesia or post-operative complications. Kringeland el. al. (2010) also found that multiparous women’s desire for vaginal birth was associated with previous
negative birth experience of CD. The researchers found that more women had negative birth experiences during TOL than as a result of RCD; this may partially explain high RCD rates in Taiwan.

While Tschudin et al. (2009) found that birth experience was better with elective CD than with vaginal birth, the findings of current study were inconsistent. In this study, three women were in their third pregnancy and had previously experienced CD and vaginal birth. Each of the women had a positive evaluation regarding vaginal birth and reported that the experience of vaginal birth was much better than elective CD. Compared to these three women, women who lacked the experience of vaginal birth preferred to opt for RCD.

Fear of vaginal birth

Notably, fear of birth is experienced by 20-50% of women, with 26% reporting low levels of birth fear, 48% experiencing moderate fear and 26% reporting high fear (Fenwick, Gamble, Nathan, Bayes, & Hauck, 2009). Fear of birth has been shown to be related to parity, gestational age, preference for CD, previous experience and social context. Several studies revealed nulliparous women experience more fear than parous women (Fenwick et al., 2009; Nieminen et al., 2009; Rouhe et al., 2009), but more parous women reported more intense fear (Nieminen et al., 2009). While Nieminen et al. (2009) found that gestational age was not associated with the level of fear of birth, Rouhe et al. (2009) found that a severe fear of birth was more common in later pregnancy. While the issue of fear of birth has been discussed extensively in the literature (Fenwick et al., 2009;
Nieminen et al., 2009; Rouhe et al., 2009), in the present study fear of vaginal birth was reported by eight women (8/21), while two women (2/21) expressed fear of CD. The women (8/21) who were fearful of vaginal birth were reluctant to attempt VBAC because of fear of uterine rupture and fear of pain.

Fear of uterine rupture contributed to women’s decision to opt RCD in the current study. In this study, safety was the main concern for some women who had had previous CD. Some women complied with obstetricians’ recommendations to have RCD based on concern for the child’s wellbeing; others reported they chose RCD to avoid the risk of uterine rupture. The notion of ‘once a caesarean, always caesarean’ not only influenced obstetricians’ decisions, but also influenced women’s decisions. Based on medical perspectives, these women considered RCD as the safest method for mother and baby; they were therefore unwilling to attempt VBAC. However, this assumption has been based on a misunderstanding of the risks and benefits of VBAC (Ecker & Frigoletto, 2007). In fact, several previous studies have shown that women who have had a previous CD lacked knowledge about the benefits and risks regarding the various birth options (Declercq, Sakala, et al., 2007; Klein et al., 2011; Renner et al., 2007). In Australia, researchers also found that women requested a non-medically-indicated CD because they perceived that medical discourse supported and reinforced their decision as a ‘safe’ and ‘responsible’ choice (Fenwick, Staff, Gamble, Creedy, & Bayes, 2010).

In the present study, some women wished to have vaginal birth but they
selected CD after the risk of uterine rupture was explained by less experienced obstetricians. These women trusted less experienced obstetricians’ professional judgement and perceived that choosing RCD was the best choice to avoid any risk of uterine rupture. However, provision of unbalanced information about the benefits and risks regarding the various birth options decreased women’s intention for VBAC. Conversely, women who had a strong intention to attempt VBAC reported that the equivalent proportions of risks between VBAC and natural birth and a well-equipped medical centre to manage emergency situations was explained by senior obstetricians. More experienced obstetricians appeared to provide a balanced information for women beneficial to women opting VBAC.

Fear of pain also contributed to women’s decisions for RCD in the current study. Some Taiwanese women in this study were reluctant to opt for VBAC, fearing labour or intense pain. These women were concerned they would experience the pain of a TOL and, in the event a CD was required, wound pain from the operation. They were fearful to undergo pain twice. Even though some women did not undergo a TOL they refused VBAC because of the fear of pain overall. These women lacked confidence to trial labour because of a previous negative experience of induction and fearing two types of pain. In parous women, fear is reported to arise from previous negative experiences (Nieminen et al., 2009). Negative experience include unexpected medical problems, such as emergency operative delivery, induction, augmentation of labour, infant transfer to neonatal care, lack of support from their partner, lack of control, and insufficient
time to ask caregiver questions (Waldenström, Hildingsson, & Ryding, 2006). Studies have demonstrated that women’s preference for RCD has been associated with a fear of birth for parous women who had had a previous CD (Nieminin et al., 2009; Rouhe et al., 2009). Severe fear of birth has been reported as more common in women with previous CD (Rouhe et al., 2009).

Over-medicalisation of the birth environment contributed to women seeking RCD. In this study, most women underwent an unsuccessful induction of labour in their previous birth. In this study, Taiwanese women’s lack of confidence to trial labour was related to their previous negative experience of medication intervention. In another study, conducted in Taiwan by Kuo (2005), of 3,447 women with low risk pregnancies more than one in five women who were not over-term or experiencing labour pain, underwent induction of labour. During the intrapartum period, 57% of the women were restricted to bed rest only, and 31.5% of these women underwent an induction of labour (Kuo, 2005). However, the phenomenon is not supported in other developed countries. While birth has become more medicalised, medicalisation of the birth environment has potentially increased women’s fears of birth (Fisher et al., 2006).

With over-medicalisation and high trust in health professionals, women often had a CD for their first birth and then chose a RCD for their subsequent birth in the present study. This finding is supported by findings of another Taiwanese study (Kuan, 2010). According to Kuan (2010), Taiwanese women who were aiming to birth vaginally but had to have a CD were aware of medical intervention
practices and they requested CD out of fear of “suffering twice”. Kuan argued that Taiwanese women requested a CD for their first birth because hospitals enforce a significant amount of medical intervention (Kuan, 2010). In fact, Taiwanese women not only wanted a safe birth, they also wanted a pleasing birth experience. While women had a satisfactory experience of vaginal birth, they were more confident to cope with labour pain. Over-use of cardiotocography monitoring is also reported to contribute to high CD in Taiwan (Kuo, 2005). Cardiotocography monitoring for foetal wellbeing is sensitive to foetal heart beat but not specific, and may result in an increase in unnecessary RCD (Kvist, Damiati, Rosenqvist, & Sandin-Bojo, 2011; Paliwal & Ali, 2014). In the target hospital, based on standard practice, all pregnant women received continuous cardiotocography monitoring once the cervix reached 3cms dilation. In the present study, some women described having an emergency CD due to foetal distress in their previous birth, and these women were more fearful of choosing vaginal birth for the subsequent birth because of concern for the baby’s wellbeing. In fact, foetal distress is more of an issues the skill of interpreting an acidic trace was lacking or that lactate measurement was not performed (Sinha & Verma, 2014). Women who had an emergency CD or an assisted vaginal birth have been reported to have more negative experiences of birth than women who did not experience such an intervention (Wiklund, Edman, Ryding, & Andolf, 2008). Experiences of an emergency CD, vacuum extraction and untreated or unbearable pain during labour have been reported to lead to post-traumatic stress disorder and to fear of birth in subsequent pregnancies (Nieminem et al., 2009).

A study conducted in Australia aimed to explore the circumstances impacting
on fear of birth, within the framework of the medicalisation of birth (Fisher et al., 2006). A total of 22 women identified being fearful of birth participated in the qualitative research. Findings indicated that those women who had recalled ‘horror’ births expected future births to be equally as traumatic and internalised birth as ‘hazardous’, ‘unpredictable’ and a negative experience, resulting in fear of future deliveries (Fisher et al., 2006). This study highlights the psychological impact on women that could be altered if appropriate support is provided.

Lack of support from health professionals resulted in women giving up their desire for VBAC in the current study. After birth, two postnatal women who had attempted VBAC reported they gave up attempting VBAC because of insufficient information and lack of support from nursing staff in the delivery room. Some nurses neither provided sufficient information for women to prepare for VBAC during prenatal care, nor did they support women’s decision for VBAC during the birth process. Non-supportive nursing staff and the over-medicalisation of the birth environment may contribute to unsuccessful VBAC. Swedish women were found to have a similar experience; women had an intense fear of birth because they had a sense of not ‘being present’ in the delivery room and an incomplete birth experience (Nilsson et al., 2010). The experience of not ‘being present’ meant not being entirely present in oneself, in the here and now, in the room and/or in relation to other people, which meant not having actively participated in the events and instead being ‘beside ‘or ‘outside’’ the experience (Nilsson et al., 2010). An incomplete birth experience consisted of feelings of loneliness, emptiness, and loss in addition to a sense of having the baby delivered rather than
giving birth. The experience remained etched in the women's minds and gave rise to feelings of fear, loneliness, and lack of faith in their ability to give birth and this also diminished their trust in maternity care (Nilsson et al., 2010). When informed decision and supported, fear of a vaginal birth can be discussed and impact on both decisions and outcomes for women.

*External factors*

Information resources

Pregnant women receive information regarding mode of birth from a variety of sources (Farnsworth & Pearson, 2007; Renner et al., 2007; Soltani & Dickinson, 2005). In this study, women did not receive any information regarding birth choices from health professionals other than obstetricians. However, the majority of women participating in the study reported that they did not receive sufficient information regarding mode of birth from obstetricians to assist them to make an informed decision. These women reported they were not fully informed of alternatives, risks and benefits of the various options regarding mode of birth. As previously highlighted, less experienced and busy obstetricians directly recommended or performed RCD. Research has shown that hospital physicians were the most frequent information providers; however, they provided women with information about procedural issues rather than possible health risks and benefits (Emmett, Shaw, Montgomery, & Murphy, 2006; Lagan et al., 2010).
In the present study, some obstetricians provided limited information, which may have biased and ultimately influenced women to choose RCD. In particular, unbalanced explanations regarding the risk of uterine rupture potentially affected women in making decisions in favour of RCD. This finding corroborates findings of a recent Australian study (McGrath et al., 2010). Australian women who chose RCD reported that VBAC was the most risky option, based on the information they received from hospital obstetricians. Compared to women selecting RCD, women who attempted VBAC reported receiving balanced information regarding different choices of birth (McGrath et al., 2010). In addition, some pregnant women in the study complied with obstetricians’ recommendation to opt for RCD, as they found it difficult to oppose obstetricians’ opinions. Medical recommendations, especially during the birth, were experienced as powerful and difficult for women to oppose (McGrath et al., 2010). Obstetricians have been described as a major factor in driving the CD rate upward (Weaver, Statham, & Richards, 2007). Power and knowledge imbalance, as well as trusting relationships with obstetricians continue to reinforce this momentum.

The internet was another important source of information regarding mode of birth for women in this study. Women were afraid to ask their obstetricians for information because of obstetricians’ time constraints; thus, they sought help from other women on the internet. Due to a lack of leaflets, booklets and newsletters regarding VBAC in organisations, some Taiwanese obstetricians also recommended that women search the internet for relevant information regarding
mode of birth. However, a lack of comprehensive information and inaccurate information on the internet may also have contributed to Taiwanese women selecting RCD. The internet has been found to play an important role for women in searching for information regarding mode of birth (Lagan et al., 2010; Lagan et al., 2006; Larsson, 2009). Lagan et al. (2010) found that approximately half the women studied reported they used the internet as a source of information because of lack of time to ask a health professional questions or because the information provided by a health professional was not clear nor satisfactory (Lagan et al., 2010). Most women were confident with their decision regarding mode of birth after seeking information from the internet (Lagan et al., 2006). According to participants in the present study, discussion on the internet regarding the risk of uterine rupture was considered negative; the majority of women on the internet recommended ‘a previous CD for last birth, a CD for next birth’, contributing to study participants’ decision to avoid an attempt of VBAC. The findings of the present study were also consistent with those of a recent UK study (Weaver et al., 2007). This highlights the need for high quality information provision to be signpost or directed towards if the misconceptions are to be corrected.

7.1.3 Decision-making process

Decision-making participation

In the present study, if women participated passively in the decision-making process regarding their options for mode of birth, their choices were primarily guided by risk reduction of uterine rupture. They were particularly
influenced by obstetricians’ recommendations. By contrast, women who actively participated in the decision-making regarding their birth choices were guided by a previous successful experience of vaginal birth. These women actively discussed with their obstetricians their desire to attempt VBAC. It is evident that a satisfactory and vaginal birth experience facilitates women’s confidence in VBAC. Because of this confidence, they discussed with obstetricians their intention to attempt VBAC and were actively involved in the decision-making regarding mode of birth choices.

The timing of women’s decision-making regarding mode of birth varied slightly during the different trimesters of pregnancy. When obstetricians’ recommended RCD in the first trimester of pregnancy, some women complied with the recommendation. In this situation, women did not participate in the decision regarding mode of birth; instead they trusted or complied with the obstetricians’ decisions. These women were concerned about the safety and wellbeing of their babies and also reported RCD was much safer than vaginal birth. This finding is similar to findings reported in existing literature. According to one study, many women’s decisions were made prior to or early in pregnancy without any openness to considering other possibilities (McGrath & Ray-Barruel, 2009).

In the present study, some women participated in decision-making in the second or third trimester of pregnancy. Women who intended to attempt VBAC made decisions regarding mode of birth by respecting and complying with health
professionals’ judgment based on the development of the current pregnancy, for example baby presentation and size. Similar findings emerged in a study conducted in Scotland (Moffat et al., 2007). Scottish women who attempted VBAC made their final decision regarding mode of birth during the course of the pregnancy and were open to change if circumstances necessitated (Moffat et al., 2007). Early closure of decision-making is a bias frequently seen in clinicians; however, this phenomenon has not been reported in patients and the subsequent influences on interventional decisions.

Auspicious time for birth

Data collection for this study was conducted in 2012, the Chinese year of the Dragon. In the study, only one woman planned to give birth in the year of the Dragon. Most women were pregnant in the auspicious year because of an unplanned pregnancy or a pregnancy planned to create a 2-3 year birth interval and wishing to have another baby as company for the first child, rather than because of an auspicious time. Reasons for not wanting to give birth in the auspicious year included increasing children’s competitiveness in academic performance, competition for access to education resources, and encountering crowds of people (such as visiting obstetricians). Women participants selected an auspicious time and day to give birth only if the decision for RCD was made. These women claimed that the auspicious time is when the baby determines her/his time and day of birth naturally. The decision-making process observed in the present study was inconsistent with previous studies that indicated women prefer auspicious times for giving birth, which has contributed to high CD rates in Chinese society (Hsu et
al., 2008; Lin et al., 2006; Yip, Lee, & Cheung, 2002). However, these previous studies involved collection of data from medical records rather than obtaining women’s perspectives, and so were based on evidence of what occurred rather than actual reasons for decisions.

The application of theory helps to explain women’s decision-making behaviours and is discussed in the following section.

**7.2 Application of theory to interpret the findings**

Three theories, the Theory of Planned Behaviour, Cultural Theory and Shared Decision-Making, were chosen to guide this research in interpreting women’s and obstetricians’ decision-making regarding mode of birth following a primary CD. Each theory offered specific attributes that were used to guide the analysis of findings.

**Theory of planned behaviour and shared decision-making**

In this study, TPB helps explain obstetricians’ behaviour and intention to share decision-making (SDM) with women making birth choices. The TPB has been used extensively to predict behaviours in health care professionals (Armitage & Conner, 2001). Figure 7-1 illustrates obstetricians’ decisions-making strategies regarding mode of birth as applied to TPB.
Figure 7-1 Obstetricians’ decisions-making strategies regarding mode of birth as applied to TPB

The attitude towards behaviour construct reflects obstetricians’ attitudes toward VBAC. More experienced and director-level obstetricians were more positive in their evaluations of VBAC; thus they were more willing to offer VBAC to women. Conversely, some less experienced and busy obstetricians were more likely to have negative evaluations of VBAC and were therefore reluctant to perform VBAC. This finding is confirmed by the findings of a systematic review of 28 studies (Gravel et al., 2006) that examined barriers and facilitators to...
implementing SDM in clinical practice. According to health professionals’ reports, three factors promoted SDM: provider motivation, positive impact on the clinical process, and positive impact on patient outcomes (Gravel et al., 2006). With concern about uterine rupture, some less experienced obstetricians did not assess pregnant women’s preferences and values. They shared knowledge and information that appeared to lack balance and they directly recommended RCD. Compared to less experienced obstetricians, more experienced obstetricians were more likely to adopt SDM to help women make decisions regarding mode of birth. They clarified women’s values and preferences and then helped them to choose their mode of birth. Similar to the findings of this study, a recent systemic review conducted by Thompson-Leduc, Clayman, Turcotte, and Legare (2014) found that the SDM behaviours most often exhibited were ‘sharing knowledge and making recommendations’ and ‘clarifying the patient’s values and preferences and presenting evidence’ (Thompson-Leduc et al., 2014).

The subjective norms of TPB are reflected in the external factors related to the NHI policy reimbursement, hospital policy regarding VBAC, the 24 hour system of the designated obstetricians, medical malpractice and women’s choice. Recent research evidence suggests that the theory-based construct most frequently associated with intention is subjective norm (Thompson-Leduc et al., 2014). Subjective norms particularly affected obstetricians’ decisions in this study. Thompson-Leduc et al. (2014) reported the interpersonal nature of SDM is a determining role in intention to engage in SDM behaviours and plays a critical factor in the role of subjective norms (Thompson-Leduc et al., 2014).
Concern about medical malpractice was the most frequently cited influence on decision-making in this study. With the largest proportion of the hospital medical disputes occurring in the area of obstetrics and gynaecology in Taiwan (Pan, 2006), Taiwanese obstetricians experienced external social pressure from medical disputes. Less experienced obstetricians were reluctant to offer VBAC to avoid risks and subsequent exposure to medical litigation.

Obstetricians’ confidence in performing VBAC related to the psychometric constructs of perceived behavioural control of TPB. With previous experience and skill, more experienced obstetricians who were confident in performing VBAC were more willing to offer VBAC, while less experienced obstetricians were not confident in their ability to offer of VBAC. Obstetricians’ confidence in performing VBAC was infrequently cited in this study, with the exception of three obstetricians who reported that obstetricians’ ability to perform VBAC was related to experience in performing VBAC. Apparently, perceived behavioural control was not an important factor affecting obstetricians’ behaviour. They realized that they could readily control the decision as most women accepted the obstetrician’s decision. These findings were in contrast to a systematic review indicating that perceived behavioural control was the variable most often associated with intention (Godin, Belanger-Gravel, et al., 2008). With concern about medical malpractice dominating obstetricians’ decision-making, offering VBAC may be less important even if obstetricians have more confidence in performing the procedure. This phenomenon was described by a less experienced obstetrician
who asserted he did not want to be a brave obstetrician but a safe obstetrician.

TPB also helps explain women’s intentions and behaviours regarding mode of birth. Taiwanese women’s decision-making processes following a primary CD were also influenced by internal and external factors. Internal or personal factors related to an evaluation of mode of birth were reflected in the ‘attitudes toward behaviour’ construct of the TPB. Women who evaluated VBAC in a positive light were more willing to attempt VBAC. Conversely, women who had a negative attitude towards TOL selected RCD (see Figure 7-2).

Figure 7-2 Taiwanese women’s decision-making regarding mode of birth as applied to TPB
Subjective norms include external factors influencing women’s decision making such as obstetricians’ recommendations, the experiences of significant others and health insurance. In this study, obstetricians’ recommendations and the experiences of significant others (mother or sister) played an important role in women’s decision-making. The majority of women respected professional judgement and complied with obstetricians’ recommendations; others trusted their significant other’s experience. In particular, in the obstetrician-directed health care environment of Taiwan, pregnant women were afraid to ask obstetricians questions, to clarify their values, or express their preference. Concern for a baby’s wellbeing was an important influence so women trusted their obstetricians’ professional judgement and recommendations to choose RCD and had less desire to participate in SDM. Although some women were not satisfied with their decisions, they had accepted the outcome after birth. Additionally, the unique health insurance system in Taiwan reduced women’s motivation to select VBAC because the NHI offers financial coverage for RCD.

Perceived behavioural control is related to women’s intention to participate in SDM. Self-efficacy is a key concept of perceived behavioural control (Ajzen, 2002). Four constructs in our findings are related to women’s self-efficacy, including previous birth experience, current pregnancy, fear of vaginal birth and the internet. In this study, women who perceived they were less empowered with respect to vaginal birth were reluctant to attempt VBAC. This includes women who had an unsuccessful TOL or emergency CD in their previous birth; women for whom the development of pregnancy was associated with poor progress.
related to foetal size, mal-presentation; and women who were informed by inaccurate and incomplete information from the internet addressing the issue of uterine rupture. In contrast, women who had a high sense of self-efficacy were more willing to attempt VBAC. In this study, three women who had successful vaginal births in their previous birth experiences were confident in attempting VBAC. They actively shared their decisions and clarified their preferences with their obstetricians. They were also satisfied with their decisions after birth. This finding suggests the more confident a woman feels in having a vaginal birth, the more willing she is to participate in SDM.

**Cultural Theory**

Douglas’s Cultural Theory also helps explain aspects of decision-making that are not addressed by the TPB. In this study, decision-making on birth choices involves risk assessment of uterine rupture. This decision-making occurs within a specific social context (the hospital setting in Taiwanese society). Subjective norms of TPB cannot fully explain the phenomenon in the context of complex local and cultural influences. In this study a qualitative approach with non-participant observation was used to elicit how women and obstetricians perceive risk and make decisions regarding birth mode in the Taiwanese setting.

According to Douglas’s four quadrants of cultural context (Douglas & Wildavsky, 1983), the findings indicate that Taiwanese obstetricians, in general, belong to one of two cultural contexts, the **individualists** or the **fatalists** group (see Figure 7-3). In this study, the majority of more experienced obstetricians belonged to the individualists group. In the cultural context of individualists,
individuals encounter few constraints and have more autonomy to choose their preference (Sjöberg et al., 2004; Tansey & O'riordan, 1999). Taiwanese more experienced obstetricians’ decisions did not appear affected by external environmental pressure and they preferred to inform women of the risks and benefits regarding various modes of birth, based on evidence (Figure 7-3).

These obstetricians respected women’s decisions and regarded women’s choice as the best decision to avoid medical malpractice. This is consistent with research findings in some developed western countries (Tansey & O'riordan, 1999;
In contrast, the majority of less experienced obstetricians belong to the fatalists group. In the cultural context of fatalists, risks are seen as part of an increasingly complex modern life, which overwhelms an individual’s ability to make sense of it. Pessimism is expressed about any beneficial changes which could occur with respect to public health and other risks in present day society (Tansey & O’riordan, 1999). With a sometimes tense relationship between patients and physicians in the medical environment, the majority of less experienced obstetricians’ decision-making strategies were constrained by external social pressures that are beyond their sphere of influence. RCD, in their judgement, is the safest and best mode of birth to minimize risk of uterine rupture.

Taiwanese women’s decision-making ascribes to two cultural contexts. While some women’s decisions are limited to the hierarchists group, others ascribe to the individualists group, according to Douglas’s cultural context theory (see figure 7-4). For people in the hierarchists culture, risks are perceived as being set in institutional frameworks, rather than in personal lives. People have a right to be informed by reliable sources and given the best information about the risks. Under the hierarchists’ culture of a hospital environment where obstetricians have authority, some Taiwanese women were afraid to ask questions regarding mode of birth. These women complied with or trusted obstetricians’ recommendations to select RCD. In fact, these women were not fully informed by health professionals about alternatives, and the risks and benefits regarding various options.

Women in the individualists group made a birth choice on their own (see
Figure 7-4). The individualist’s culture emphasises personal responsibility towards the gathering of correct information, and maintenance of social networks that can fulfil an individual’s needs. Responsibility is devolved to an individual level (Tansey & O’riordan, 1999). Although Taiwanese women did not acquire comprehensive information from health professionals, they searched for relevant information from the internet. They made a decision regarding mode of birth on their own after considering their own personal factors and the external drivers. Women who had had a successful vaginal birth experience or a negative experience in a previous caesarean were confident to take responsibility for the decision and to decide on VBAC.

![Figure 7-4 Women’s decisions applied to Cultural Theory](image-url)
A decision-making model regarding mode of birth following a primary caesarean delivery emerged from the findings and interpretation of participant interviews and observations of woman-obstetrician dyads in the present study. This model will be presented in the following section.

7.3 A decision-making model regarding mode of birth following a primary caesarean delivery

A decision-making model regarding mode of birth consists of four components: influences, processes, outcomes and reflection. The decision-making processes regarding mode of birth are dynamic and depend on the stage and development of pregnancy. At the antepartum stage, both pregnant women’s and obstetricians’ decisions are influenced by internal and external factors. Internal factors influencing pregnant women’s decisions include previous birth experience, fear of vaginal birth, evaluation of modes of birth and current pregnancy. External factors comprise of information resources (including obstetricians’ recommendations, the experience of significant others, and the internet ) and types of health insurance (National Health Insurance and private insurance). Internal factors influencing obstetricians included attitudes towards VBAC and their confidence in performing VBAC. External factors influencing obstetricians included the National Health Insurance policy on reimbursement, hospital policy regarding VBAC, the 24 hour system of the designated obstetricians, medical malpractice and women’s choice.

The decision-making processes used by pregnant women and the decision-
making strategies used by obstetricians varied slightly. Cultural Theory, the Theory of Planned Behaviour, and Shared Decision-Making help explain these decision-making processes and strategies. The decision-making process used by pregnant women included information searching, respecting professional judgement, evaluation of alternatives, and making a decision regarding mode of birth. Obstetricians’ decision-making strategies included inquiring about women’s intentions, informing women of alternatives, simple explanation/analysis of risks, and letting women decide for themselves.

The final decision regarding mode of birth is highly flexible and can be changed in accordance with the development of pregnancy. Women changed birth choice from VBAC to RCD when foetal size increased beyond the expected range for a given gestation or when mal-presentation persisted. In addition, women chose VBAC or RCD following discussions with their obstetricians. Obstetricians either adopted defensive medicine by recommending RCD or they shared decision-making and respected women’s decisions. After birth, women reflected on the birth in three areas including reflection on birth choices, reflection on factors influencing their decisions and reflection on outcomes of decisions. An integrated model of decision-making regarding mode of birth following a primary caesarean delivery is presented in Figure 7-5. It demonstrates a cognitive continuum as pregnancy progresses and contextual influences vary.
Figure 7.5 A decision-making model regarding mode of birth following a primary caesarean delivery
7.4 Summary

The overarching theme arising from this study was one of risk management. Ensuring the safety of mother and baby was the focus of both obstetricians’ and pregnant women’s decision-making. Obstetricians play an important role in women’s decisions regarding mode of birth choices. The main findings of factors influencing obstetricians’ decisions included attitudes towards supporting VBAC, medical malpractice, the 24 hour system of the designated obstetrician and the policy of NHI scheme. Most obstetricians assisted women in choosing their subsequent mode of birth, based on the principle of ensuring the safety of mothers and babies as well as decreasing their own risk for litigation. To protect themselves from risks of medical litigation, a majority of less experienced and busy obstetricians directly recommended RCD for women without informing women about alternative choice. These obstetricians were not willing to take any risks that may lead to complications such as a uterine rupture, which limited women to opt for VBAC. In Taiwan, NHI offers the financial coverage for women without the need to have a TOL as long as they have had a previous CD, which was also responsible for low VBAC rates.

Although concern for the health and wellbeing of mother and baby determined women’s decisions about birth choice, several important psycho-social factors also influenced women’s decisions. They were previous birth experience, fear of vaginal birth and information resource. In particular, over-medicalisation of the birth environment contributed to women seeking RCD in Taiwan. With an
unpleasant or unexpected previous negative birth experience (such as induction of labour and TOL), most women lacked confidence to select vaginal birth for their subsequent pregnancy. In contrast, some women had strong desires to attempt VBAC because of fear of epidural anaesthesia or post-operative complications such as back pain. These women were reluctant to select same mode of birth to avoid medication intervention.

This chapter has presented a discussion of the study findings, relating the findings to existing evidence and theory, and has presented a model of decision-making that emerged from this research. The next and final chapter presents aims and methodological approach, a summary of the main findings, examines the strengths and limitations of the study, discusses the implications of the study for clinical practice, education and future research, and highlights the contribution of the study to the knowledge base.
Chapter Eight

Conclusion
CHAPTER EIGHT: CONCLUSION

8.0 Introduction

This concluding chapter is divided into five sections. Section one presents the aims and methodological approach. Section two presents a summary of the main findings. Research strengths and limitations are presented in section three. The implications of the study for clinical practice, education and future research are presented in section four. Finally, the contribution of the study to knowledge is presented in section five.

8.1 Aims and methodological approach

Taiwan has high RCD and low VBAC rates. This study aimed to gain an insight into the decision-making surrounding mode of birth in Taiwanese women who had had a previous CD, and to critically examine how the decision-making processes and influences on mode of birth are made by health professionals and women within the hospital environment.

The study was designed to elicit the decision-making on birth choices following a CD by Taiwanese women and obstetricians. Women’s and obstetricians’ decision-making regarding birth choices were identified using multiple data collection methods, including in-depth interviews, observations and field notes. In particular, this study used in-depth interviews to capture individual
participants’ viewpoints. Personal interviews occurred in private, information was treated confidentially, allowing participants to articulate their thoughts and reflections freely (Morse, 1991). Non-participant observation was employed in this study to observe the interactions between obstetricians and pregnant women during obstetric consultations. Observation in the real world enabled interpretation of the impact of hospital environment and social influences on women’s and obstetricians’ decisions. The data not only captured the phenomena of decision-making regarding mode of birth in Taiwan, but also captured obstetricians’ and women’s opinions about factors influencing their decision-making regarding birth choices.

8.2 Summary of main findings

Taiwanese pregnant women’s and obstetricians’ decisions regarding birth choices following a previous CD were based on concern about the health and wellbeing of mothers and babies as well as protecting obstetricians from risks of medical litigation. Both internal and external factors influenced obstetricians to assist women in choosing their subsequent mode of birth. Internal factors included their values, beliefs and clinical experience. Obstetricians’ attitudes toward supporting VBAC and their confidence in performing VBAC were important influences on their decisions to offer VBAC or not. Individual hospital, social and cultural contexts, including the NHI policy on reimbursement, hospital policy regarding VBAC, the 24 hour system of the designated obstetrician, the threat of medical malpractice if injury occurred, and the individual woman’s choice, were external factors influencing obstetricians’ decision-making.
Obstetricians adopted one of two clinical decision-making strategies to assist women making birth choice. Most junior and busy obstetricians implemented a dictatorial approach in strongly advocating that women opt for RCD. A consultative approach was employed by most senior or director-level obstetricians. These obstetricians assisted women to make a decision about birth choice through a four step consultative approach, including inquiring about women’s intentions, informing women of alternatives, simple explanation/analysis of risks, and letting women decide for themselves. Thus, one of two outcomes resulted from the clinical decision-making strategies adopted by obstetricians, defensive medicine or respect for women’s decisions.

Women’s decisions were also influenced by internal and external factors. Internal factors included their knowledge, beliefs and values, including previous birth experience, fear of vaginal birth, evaluation of modes of birth, and current pregnancy. Women’s decisions were also influenced by external system factors. A number of barriers relating to cultural and social norms were identified. Information sources (obstetricians’ recommendations, the experience of significant others, and the internet) and health insurance (NHI and private insurance) were also influential when it came to birth choice.

Women made birth choices through a four step decision-making process, including information searching, respecting obstetricians’ professional judgment, evaluation of alternatives, and finally, making a decision regarding mode of birth. Although most women wished for a birth that was as natural as possible, they changed their decisions from VBAC to RCD at any step of the
decision-making process, depending on the development of the pregnancy (influenced, for example, by factors relating to foetal size or mal-presentation). Postnatal women evaluated their decisions regarding mode of birth according to three areas: reflection on birth choices, reflection on factors influencing decisions, and reflection on outcomes of decisions. Half the postnatal women were satisfied with their decisions regarding mode of birth, while a third of women accepted the outcome because of its perceived safety. Two postnatal women experienced an unsuccessful VBAC and one of these postnatal women was dissatisfied with the outcome.

8.3 Strengths and limitations of the study

For geographical convenience, data were collected in a large private medical centre rather than in a public hospital or a clinic in Taiwan. Therefore, the findings may not be transferable to all pregnant women in Taiwan. In addition, some senior obstetricians did not consent to participate in the study and this may have resulted in sampling bias. Women were interviewed in a visiting room while awaiting their consultation, the location and time constraints may have limited their ability to fully share their stories. In spite of these limitations, the findings that emerged from participants’ interviews were meaningful and offered greater depth than a survey would have produced. Additionally, this study comprised of interviews with obstetricians and women which was helpful in capturing their actual thinking regarding mode of birth from different perspectives. Observation of women-obstetrician dyads during consultations enabled examination of the actual interactions between
obstetricians and pregnant women, thereby providing a deeper understanding of the information sharing and decision-making process than would not have been obtained through the individual interviews alone.

8.4 Implications for clinical practice, education and future research

The study findings have a number of implications for clinical practice, education and research.

Clinical practice

First of all, most of the Taiwanese pregnant women were reluctant to have a trial of labour because of an unpleasant experience of induction in their previous birth. They were unwilling to choose the same method and were fearful to undergo pain twice as in their previous birth. The over-medicalisation of the birth environment in Taiwan contributed to women seeking RCD. Thus, reduction in routine medical interventions such as enemas, intravenous fluids, shaving, fasting, staying in bed, and unnecessary inductions, has the potential to promote a more satisfactory birth experience for women. Women who had a satisfactory vaginal birth experience were more confident and likely to cope with labour pain.

Secondly, establishing a supportive birth environment is important. Health professionals providing practical information may facilitate women to construct a more accurate picture from which realistic hopes, fears and expectations can be formulated about impending labour (Martin, 2008). Health professionals should also dedicate time to understanding and dismantling the dimensions of
women's birth fears, and understanding the nature of relationships that mediate
women's fear (Fisher et al., 2006). During the intra-partum period, health
professionals should establish a positive relationship with women, such as
being tender, supportive, and displaying consistent attitudes, these behaviours
may help reduce women’s fear of vaginal birth and improve women’s
confidence to overcome their fear.

Thirdly, all women have the right to be informed of the alternative options
for birth. The majority of Taiwanese women participating in this study did not
receive any written evidence-based information regarding VBAC from health
professionals or hospitals. Health professional are responsible for the provision
of accurate information regarding VBAC, including explaining the risks and
benefits regarding various birth choices. Decision aids have been shown to
assist patients to make informed decisions (O'Connor et al., 2009; Vlemmix et
al., 2013). Computer-assisted decision aids may help compensate for the
shortcomings of the current health care system in Taiwan and facilitate
informed decision-making. In addition, such tools may complement
obstetricians’ provision of information regarding VBAC, helping to explain the
risks and benefits regarding various birth choices, reducing the tension between
women and obstetricians, and reducing the potential for malpractice litigation.

Fourthly, the majority of pregnant women participating in this study were
fearful to ask questions because of perceptions of obstetricians’ time constraints.
These women therefore sought information from the internet. However, much
of the information regarding VBAC available on the internet lacks an evidential
Thesis Chapter Eight: Conclusion

base. The internet as an information source is very popular in Taiwan and is easily accessible; thus, the government could establish a website to provide a reliable information service. Further, access to obstetric experts on the internet would allow women to ask questions freely and could potentially reduce any bias in information provision.

Fifthly, establishment of clear criterion for financial coverage for women who have had a previous CD in Taiwan is urgently required. Financial coverage for RCD could be provided on the condition that where appropriate a woman undergoes a TOL and experiences lack of good progress of labour. The NHI could also include establishment of a comprehensive supervision system to monitor indicators of CD, including a primary CD and RCD.

Finally, in the present study, some obstetricians were exhausted due to the high numbers of clients they consulted with. To enable them to get rest at night, some obstetricians recommended and performed RCD. Midwife-led care could be restored as a potential solution for decreasing the workload for obstetricians in low risk situations and may reduce the current high RCD rates.

Education

The decision-making model regarding mode of birth following a primary CD that has emerged from this research provides a theoretical foundation for educators and midwives to understand women’s decision-making processes and influences. Decision aids with computer-assisted education, explaining the risks and benefits regarding various birth choices, are an option for providing women
with information regarding VBAC. In addition, the inclusion in the curriculum for medical and nursing/midwifery students, content regarding communication skills and human relationships would help build their skills in enabling women to make well informed birth choices. Education should aim to train more midwives participating in medical services as midwife-led continuity of care holds great promises for promoting high quality maternal care.

Future research

This study gives rise to several recommendations for future research. A survey to investigate a broader sample of Taiwanese women’s decision-making regarding mode of birth following a primary CD would enable a wider scale examination of women’s roles and preferences for mode of birth and the value of information. An exploration of internet use in informing women’s decision-making regarding mode of birth is also recommended. By understanding the sources of information used, we can then identify gaps and inaccuracy in information that may influence decision-making. Lastly, research to examine the effectiveness and potential benefits of decision aids on Taiwanese women’s birth choice is also warranted. This would necessitate the development and testing of culturally appropriate decision aids to help Taiwanese women make informed decisions.

8.5 Conclusion

This is the first study conducted in Taiwan to capture the influences on decision-making regarding birth choice, and in particular, the real-world
information sharing between obstetricians’ and pregnant women. The evidence generated from this study makes an important contribution to knowledge about decision-making regarding mode of birth following a CD, the factors influencing decision-making processes regarding mode of birth, women’s reflections on choice, and the information required for decision-making regarding mode of birth. A decision-making model regarding mode of birth following a primary CD was generated from participants’ interviews, which also contributes to knowledge and has potential to assist midwives to develop a greater understanding of the choices and influences on women’s decisions regarding mode of birth.
Appendix

Appendix 1 - Ethical approval from Deakin University

Memorandum

To: Prof Tracey Bucknall
School of Nursing & Midwifery

Deakin University Human Research Ethics Committee (DUHREC)

Date: 18 July, 2012

Subject: 2012-071
Decision-making processes and influences on mode of delivery in Taiwanese women who have had one previous caesarean section
Please quote this project number in all future communications

The application for this project was considered at the DUHREC meeting held on 30/04/2012.

Approval has been given for Mrs Shu Wen Chen, under the supervision of Prof Tracey Bucknall, School of Nursing & Midwifery, to undertake this project from 16/07/2012 to 18/07/2016.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Human Research Ethics Unit immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time.
- Any events which might affect the continuing ethical acceptability of the project.
- The project is discontinued before the expected date of completion.
- Modifications are requested by other HRECs.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

DUHREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007).

Human Research Ethics Unit
research-ethics@deakin.edu.au
Telephone: 03 9251 7123
Appendix 2 - Ethical approval from medical centre in Taiwan

Chang Gung Medical Foundation
199, TUNG HWA NORTH ROAD,
TAIPEI TAIWAN, 10507
REPUBLIC OF CHINA
TEL: (03) 3196200
Fax: (03) 3196102

27/06/2012

Protocol Title: Decision-making processes and influences on mode of delivery in Taiwanese women who have had one previous caesarean section
Protocol No.: 101-0318A3
CGMF IRB No.: 101-0318A3
Principal Investigator: Shu Wen Chen
Co-Investigator: Po Jen Chang; Jui Chihung Sun
Protocol Version: 2012/3/VER1
Informed Consent Form Version: 2012/05/28/VER2

, was approved by the Institutional Review Board (the "IRB") of Chang Gung Medical Foundation on 20/06/2012. The IRB is organized and operates according to Good Clinical Practice and the applicable laws and regulations.

Sincerely Yours,

Tsang-Tang Ilieh, M.D.
Chairman
Institutional Review Board
Chang Gung Medical Foundation

Signature Redacted by Library
長庚醫療財團法人

試名稱：曾有一族血產台灣婦女的生育方式決策過程及影響因子

本院案號：101-0318A3

試驗期間：101年06月20日起至102年02月19日止

主持人：長庚科技大學護理系孫瑞傑講師

共同主持人：陳淑芬

協同主持人：郭博仁

執行機構：長庚醫院台北、長庚醫院林口

同意計畫書版本：2012/3/VER1

同意之受試者同意書版本：2012/05/28 第二版

通過日期：101年05月20日

通過會期：101年06月05日

※請於到期前二個月繳交期中報告以利本會進行審查※

長庚醫療財團法人

人體試驗倫理委員會

謝輝堂主席

中華民國101年06月27日

【主持人事項】

一、實施試驗計畫前，應擬定研究計畫，經人體試驗倫理委員會審查通過，始得施行。後附

二、試驗進行前，主持人應確實核對試驗計畫書、受試者同意書等之正確版本，以及人體試

三、試驗進行中，應對試驗結果及受試者之安全做適當的關注及監督，並在試驗報告中予以

四、應向試驗者講明「醫學」、「人體試驗管理辦法」、「人體研究法」、「人體生物資料

第1頁/共2頁
Appendix 3 - Interview guide for obstetricians

1. Could you tell me your opinion about what has influenced the caesarean delivery rate in Taiwan?
2. Do you assist pregnant women who have had a caesarean delivery to make a decision regarding mode of birth?
3. What decision support do you use to assist women to make decisions about VBAC/RCD?
4. What elements influence you in offering counselling about mode of birth?
5. How do you see your role in this decision-making process?
6. What are the barriers/facilitators to women achieving VBAC?
7. What are your thoughts on the value of a decision aid?
8. Please comment on the need for women to receive an informational resource to assist in VBAC decision-making.
Appendix 4 - Interview guide for women

**Prenatal interview for pregnant women who have had a previous CD**

1. Could you tell me your plan regarding mode of birth?
2. How did you make this decision regarding mode of birth?
3. Did your obstetrician assist you to make this birth choice? In what way?
4. How did you acquire information about mode of birth?
5. What is your family’s attitude toward mode of delivery?

**Postnatal women who have had a previous caesarean delivery**

1. Could you tell me what influenced your plan for mode of birth?
2. Did your birth happen to according to your plan? If not, were you involved in the decision about the change of plan?
3. Did you receive any counselling by health professionals about VBAC or RCD?
4. How do think obstetricians’ roles make an impact during the decision-making process?
5. How do you see your role in this decision-making process?
6. What information did you need to assist you to decide on mode of birth?
7. In hindsight, are you satisfied with your decision regarding mode of birth?
Appendix 5 - Research invitation

Invitation

Study Title: Decision-making processes and influences on mode of birth in Taiwanese women who have had a previous caesarean delivery

Dear obstetricians

My name is Shu-Wen Chen. I am a doctoral candidate in the School of Nursing and Midwifery at Deakin University, Australia. I am conducting a study as part of the requirements for doctoral degree, supervised by Prof. Tracey Bucknall. I would like to invite you to participate.

What is the research purpose and what is the research method being used?

The purpose of this research is to gain an insight into decision-making processes regarding mode of birth in Taiwanese women who have had a previous caesarean delivery. A qualitative approach will be used to conduct this study, which will comprise two phases. Phase I will explore Taiwanese obstetricians’ perspectives on decision-making regarding mode of birth while Taiwanese women’s views will be examined in Phase II. Phase II will consist of three stages: naturalistic observation, interviews with pregnant women and interviews with postnatal women.

What would you be asked to do?

If you are interested in participating in the study, you will sign a written consent of interview and observation before commencing interview. Phase I you will be asked to share your perspectives about how you assist pregnant women who have had a previous caesarean delivery to make a birth choice and what influences
affect your advice. The interview will take place at your office in the Department of Obstetrics and Gynaecology. One key question “Could you tell me in your opinion what influences the caesarean delivery rate in Taiwan?” will guide the interview. Phase II, stage I, if you and a pregnant woman consent to a consultation episode being observed in the OPD of Obstetrics and Gynaecology, I will observed the interactions between you and pregnant women to understand how the birth decisions are made. The observation will be held at 30-32 weeks gestation.

Audio-recording will not be employed during observation. The audio-recording will be used for the interview so that I can accurately reflect on the perspectives you shared. In addition, the recordings will only be reviewed by the research team for transcription and analysis. You do not need to review or edit the transcripts.

What choice and rights do you have?

You may feel uncomfortable answering some of the questions. You do not have to answer any questions that you do not wish to. Although you probably won’t benefit directly from participating in this study, we hope that researching findings will benefit women and contribute new knowledge. Participation is confidential. The results of the study may be published or presented at professional meetings, but your identity will not be revealed. Participation is anonymous, which means that no one will know what your perspectives are. Taking part in the study is your decision. You do not have to be in this study if you do not want to. You may also withdraw from the study at any time without any reasons, or decide not to answer any question you are not comfortable answering. Participation, non-participation or withdrawal will not affect you in any way.
I am happy to answer any questions you have about the study. You may contact me on the number or at the address below. If you have any questions about your rights as a research participant, you may contact the Manager, Research Integrity, Deakin University, 221 Burwood Highway, Burwood Victoria 3125, Telephone: 9251 7129, Facsimile: 9244 6581; research-ethics@deakin.edu.au

Thank you for your consideration. If you would like to participate, you will receive a bottle of red wine to reimburse you for your time and contribution. Please contact me by e-mail listed below to discuss participating. I will contact you as soon as possible to schedule an interview time.

With kind regards,

Signature

Name: Shu-Wen Chen

Phone number: 886-3-3183901

E-mail address: schew@deakin.edu.au or chensw-beth@yahoo.com.tw
邀請函

研究計畫主題：曾有一次剖腹產臺灣婦女的生產方式決策過程及影響因數

您好，我是長庚科技大學護理系講師 陳淑溫，現正在澳洲迪肯大學進修博士。我正在著手進行論文研究計畫，並竭誠地邀請您的參與。此研究計畫的目的是在探討曾有一次剖腹產臺灣婦女的生產方式決策過程及影響因數。本研究為質性研究，採理論性選樣(Theoretical sampling)，資料收集直到資料飽和且出現重複資料為止。研究涵蓋兩階段三時期。階段一在探討臺灣產科醫生對曾有一次剖腹產臺灣婦女的生產方式決策的觀點；階段二則在檢視曾有一次剖腹產婦女再次懷孕對其生產方式決策的態度與想法。第一期為自然觀察期(naturalistic observation)，目的在瞭解在醫院環境下，產科醫師與懷孕婦女的生產方式決策互動過程，以及產科醫師如何協助婦女做最佳的生產方式決策；第二期則在訪談影響曾有一次剖腹產懷孕婦女生產方式計畫的因素，包括資訊的獲取，家人和朋友的態度，以及文化的考慮等。第三期為訪談產後媽媽對其生產方式決定的反思及影響因素。

若您決定參與，您將會被訪談有關您如何協助曾有一次剖腹產孕婦做生產方式選擇及有哪些因素影響你的決定。此訪談地點將於婦產部您個人的醫師辦公室，訪談時間約費時 30 分鐘。在完成訪談後，我會到婦產科門診觀察您如何協助婦女做最佳的生產方式選擇。為了正確反映您所分享的內容，錄音會運用在訪談階段，但不會用於觀察階段。訪談的錄音內容僅會被研究小組成員轉譯成文字及分析用，並存放在安全的地點。
參與此研究完全是自願。假如您不想參加您可以不用參加。在研究進行期間的任何時間，若您想要終止或退出都不需任何理由。參加與或不參加，以及終止或退出，都不會影響到您的權益也不會對您有任何影響。此外，若您在回答任何問題時，會讓您覺得不舒服而不想回答時，您可以不必回答。基於保護你的隱私權，您的名字將不會出現在任何檔或任何場合，而是以匿名方式呈現。參與此研究並無給付費用，但若您有興趣參與，在訪談後您將獲贈一瓶澳洲當地紅酒，以感謝您的貢獻及撥冗參與。假若您有興趣參與或想進一步詢問相關問題，請您與我聯繫。聯繫方式如下

陳淑溫

Phone number: (03)3183901; 0914059393

E-mail: chensw_beth@yahoo.com.tw; swchen@mail.cgust.edu.tw
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