

# Attitude and Preference of Thai Pregnant Women Towards Mode of Delivery<sup>†</sup>

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**Objective:** To explore the attitudes and wishes of Thai pregnant women regarding modes of delivery.

**Material and Method:** Four hundred fifteen pregnant women attending the Vajira Hospital antenatal clinic were included in the present study. Data was assembled from the voluntarily self-completion questionnaires completed by the eligible women.

**Results:** Only 3.1% of the participants could give entirely correct answers in the knowledge module. Most of the respondents (87.5%) preferred vaginal delivery. The most popular reason for the preference for vaginal delivery was desire for a natural process. Fear of labor pain was the most frequent reason of the women who preferred cesarean section. The strongest predictor for patients' preference for cesarean delivery was a prior cesarean section (RR 11.1, 95% CI 4.7 to 26). Thirty-two percent of the participants felt that cesarean delivery on maternal request was their right and they desired to take part in the decision-making for their mode of delivery. Of those women who stated that cesarean section on demand was their right, the majority (77.3%) still preferred vaginal delivery.

**Conclusion:** Although the proportion of Thai pregnant women who wished to have a cesarean delivery was higher than that of women from other countries, the majority of study participants preferred vaginal delivery.

**Keywords:** Attitude, Preference, Pregnant women, Cesarean section, Obstetric delivery

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The continued increasing cesarean section rates worldwide are an issue of public health concern<sup>(1)</sup>. One of the reasons for this trend results from the demand of pregnant women themselves<sup>(2)</sup>. Maternal age, ethnicity, education, or belief etc. may affect a woman's perceptions to mode of delivery. Cesarean delivery on maternal request is one of the most controversial topics in obstetrics<sup>(3,4)</sup>. In Thailand, maternal request is not a generally accepted indication; however, some studies have suggested that lack of participation in the decision-making regarding mode of delivery is associated with increased risk of lawsuits<sup>(5,6)</sup>. Although several reports have demonstrated the attitudes of Western women

towards mode of delivery or cesarean delivery on maternal request<sup>(2,6-8)</sup>, available data that reflects the attitudes of Asian people is limited. The objective of the present study was to explore the attitudes, knowledge, and wishes of Thai pregnant women towards cesarean and vaginal deliveries.

## Material and Method

The present study was approved by the Ethics Committee of Bangkok Metropolitan Administration. A questionnaire was developed and then a pilot study was conducted to test its reliability presenting a Cronbach's alpha reliability coefficient of 0.82. The questionnaire consisted of 25 questions, addressing pregnant women demographics, obstetric background, knowledge, attitudes, and wishes concerning mode of delivery. The questions included both open and closed end and the questions addressing knowledge and attitudes towards cesarean and vaginal deliveries were all introduced with a yes/no question. At the end

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of questionnaire, the patient's preference towards mode of delivery (if she were given a free choice) and whether she desired to take part in the decision-making relating to her mode of delivery were surveyed.

Vajira Hospital is a tertiary and university hospital in Bangkok, Thailand, delivering approximately 4,500 women per year. The cesarean section rate has continually risen over the past several years. The most recent figure (2005 to 2009) was 24 to 29%. Pregnant women presenting for their first antenatal care at this hospital between December 2009 and May 2010 were invited to participate. Participation was voluntary and the information was gathered from a self-completion questionnaire after written informed consent had been obtained. The women were excluded if they could not read or declined to participate.

The data was entered into a computer database and analyzed using SPSS Statistics 17.0. Baseline characteristics were presented as mean, standard deviation, or percentage as appropriate. Percentage was used to describe the frequency of response on knowledge, attitude, and preference regarding mode of delivery. Predictors for women's preference for cesarean section was presented as relative risk (RR) and 95% confidence interval (CI).

## Results

Five hundred fifty pregnant women were invited to participate. One hundred twenty four declined and 11 cases could not read, leaving 415 women included in the present study. The characteristics of the participants are presented in Table 1. In the knowledge module, women were assessed on their awareness of the advantages and disadvantages of both cesarean and vaginal delivery. The responses are shown in Table 2. Almost all of the participants (93.2%) knew that the recovery period for cesarean delivery is longer than that for vaginal delivery. On the other hand, most of them (70.9%) did not realize that the risk of maternal death from cesarean delivery is higher than that following vaginal delivery. In the overall assessment for the knowledge module, approximately one third of women (30.1%) could correctly respond of  $\geq 4/5$  questions and only 3.1% could give entirely correct answers. In the attitude module, all the responses are shown in Table 3. The top belief of the participants (68.3%) was that women who delivered by cesarean section missed an important opportunity. Only 20.6% believed that cesarean delivery could preserve sexual satisfaction that might be ruined following vaginal delivery.

Most of the participants (363 women, 87.5%) indicated a preference for vaginal delivery if they were offered the possibility of choosing. The most outstanding reason given from these women was desire for a natural process (306 in 363, 84.3%). The following popular reasons were belief that vaginal delivery is safer for the mother than cesarean section (265 in 363, 73.0%), and lower cost (251 in 363, 69.1%). The proportion of participants who wished to deliver by elective cesarean section was 12.5% (52 women). The three most common reasons given from the latter group of women were fear of labor pain (36 in 52, 69.2%), belief that cesarean delivery is safer for the baby than vaginal delivery (32 in 52, 61.5%), and convenience for controlling agendas and career planning (28 in 52, 53.8%). Significant predictors for women's preference for cesarean delivery calculated from univariate analysis (Table 4, 5) were an advanced maternal age ( $\geq 35$  years) (RR 2.3, 95% CI 1.4 to 4.0), a prior cesarean delivery (RR 11.1, 95% CI 4.7 to 26), belief that cesarean delivery by scheduling a particular birth date and time is great for the baby (RR 2.4, 95% CI 1.4 to 4.0), belief that cesarean delivery can preserve sexual satisfaction that might be ruined following vaginal delivery (RR 2.4, 95% CI 1.4 to 4.0), belief that cesarean delivery is safer for the mother (RR 2.4, 95% CI 1.4 to 4.0), belief that cesarean delivery is safer for the baby (RR 3.4, 95% CI 2.0 to 5.8), and the idea

**Table 1.** Demographic characteristics in 415 women

Characteristic	Percent (n)
Age (mean $\pm$ SD, range)	7.9 $\pm$ 6.1 (14-46)
Hometown	
Urban (Bangkok)	32.1% (130)
Rural	67.9% (275)
Education	
Primary	11.5% (46)
Secondary	41.0% (164)
College	21.0% (84)
Bachelor or higher	26.5% (106)
Marital status	
Married/Cohabiting	96.5% (382)
Divorce/Widowed	3.5% (14)
Monthly household income (US \$)	
< 303	38.6% (156)
303-909	48.5% (196)
> 909	12.9% (52)
Parity	
Primipara	56.4% (233)
Multipara	43.6% (180)

**Table 2.** Knowledge assessment of cesarean and vaginal deliveries

Question	Correct responses (%)	Incorrect responses (%)
Q1. Blood loss in cesarean and vaginal deliveries is comparable. (“No” is the right answer)	55.3	44.7
Q2. Recovery period of cesarean delivery is longer than vaginal delivery. (“Yes” is the right answer)	93.2	6.8
Q3. Postpartum infection is more frequent in vaginal delivery than cesarean delivery. (“No” is the right answer)	72.7	27.3
Q4. Cesarean delivery decreases risk of birth injury. (“Yes” is the right answer)	43.7	56.3
Q5. Risk of maternal death from cesarean delivery is higher than that following vaginal delivery. (“Yes” is the right answer)	29.1	70.9

**Table 3.** Attitudes towards cesarean and vaginal deliveries

Question (All begin with “You believe that...”)	Women’s response Yes (%)	Women’s response No (%)
Q1. Cesarean delivery by scheduling a particular birth date and time is great for the baby.	31.7	68.3
Q2. Cesarean delivery can preserve sexual satisfaction that might be ruined following vaginal delivery.	20.6	79.4
Q3. Cesarean delivery is safer for the mother than vaginal delivery.	26.3	73.7
Q4. Cesarean delivery is safer for the baby than vaginal delivery.	34.4	65.6
Q5. Woman who deliver by cesarean section miss an important opportunity.	68.3	31.7

**Table 4.** Preference regarding mode of delivery in relation to background characteristics

	Cesarean delivery, n (%)	Vaginal delivery, n (%)	RR	95% CI
Maternal age (years)				
< 20	2 (5.1)	37 (94.9)	0.5	0.1-1.9
20- 34	34 (11.0)	274 (89.0)	1.0	ref
≥ 35	16 (25.8)	46 (74.2)	2.3	1.4-4.0
Hometown				
Urban (Bangkok)	12 (9.4)	116 (90.6)	1.0	ref
Rural	39 (14.2)	235 (85.8)	1.5	0.8-2.8
Education				
Primary	4 (8.7)	42 (91.3)	0.8	0.3-2.2
Secondary	18 (11.0)	145 (89.0)	1.0	ref
College	10 (12.2)	72 (87.8)	1.1	0.5-2.3
Bachelor or higher	18 (17.0)	88 (83.0)	1.5	0.8-2.8
Monthly income (US \$)				
< 303	16 (10.4)	138 (89.6)	0.8	0.4-1.3
303- 909	27 (13.8)	169 (86.2)	1.0	ref
> 909	9 (17.3)	43 (82.7)	1.3	0.6-2.5
Parity				
Primipara	30 (13.0)	200 (87.0)	1.0	ref
Multipara	22 (12.2)	158 (87.8)	0.9	0.6-1.6
Prior mode of delivery				
Vaginal delivery	6 (4.2)	136 (95.8)	1.0	ref
Cesarean section	16 (47.1)	18 (52.9)	11.1	4.7-26.3

**Table 5.** Preference regarding mode of delivery in relation to knowledge and attitudes variables

	Cesarean delivery, n (%)	Vaginal delivery, n (%)	RR	95% CI
Knowledge module				
Correct response < 4/5 questions	36 (13.8)	225 (86.2)	1.2	0.7-2.2
Correct response ≥ 4/5 questions	13 (11.6)	99 (88.4)	1.0	ref
Attitude module				
Belief in Q1	26 (20.8)	99 (79.2)	2.4	1.4-4.0
Disbelief in Q1	24 (8.8)	249 (91.2)	1.0	ref
Belief in Q2	19 (23.5)	62 (76.5)	2.4	1.4-4.0
Disbelief in Q2	31 (9.8)	284 (90.2)	1.0	ref
Belief in Q3	23 (22.1)	81 (77.9)	2.4	1.4-4.0
Disbelief in Q3	27 (9.2)	265 (90.8)	1.0	ref
Belief in Q4	32 (23.7)	103 (76.3)	3.4	2.0-5.8
Disbelief in Q4	18 (7.0)	239 (93.0)	1.0	ref
Belief in Q5	32 (11.9)	238 (88.1)	1.0	ref
Disbelief in Q5	18 (14.4)	107 (85.6)	1.2	0.7-2.1
Maternal wish				
Cesarean section should be performed only if obstetric indication(s) presented and doctors should be the people who decide	23 (9.1)	229 (90.9)	1.0	ref
Cesarean section on demand is her right and she desires to take part in the decision-making for her mode of delivery	27 (22.7)	92 (77.3)	2.5	1.5-4.1

that cesarean section on demand is a patient's right (RR 2.5, 95% CI 1.5 to 4.1).

Most of the participants (68.2%) believed that cesarean section should be performed only if obstetric indication(s) presented and doctors should be the ones who took the decision and the remaining patients (31.8%) desiring to take part in the decision-making for their mode of delivery felt that cesarean section on demand was their right to request. However, of those women who stated that cesarean section on demand was their right, a majority (77.3%) still preferred vaginal delivery.

### Discussion

A majority of pregnant women from the present study preferred vaginal delivery, which is consistent with several previous reports irrespective of ethnicity, education or socioeconomic background<sup>(2,7,9-11)</sup>. The most common reason for preferring vaginal delivery was the desire for a natural process, which also agrees with other publications<sup>(10-12)</sup>. Potter et al<sup>(13)</sup> reported that 13.2% of women using the public healthcare system in Brazil would choose elective cesarean section. Similarly, the present data showed that 12.5% of study participants preferred an elective cesarean delivery. However, the figure from the

authors' findings was 1.5-3 times higher than those published for Western or even other Asian women. For instance, in an Italian<sup>(9)</sup>, a Scottish<sup>(7)</sup> and a Swedish survey<sup>(2)</sup>, it was revealed that 4%, 7%, and 8.2% of pregnant women favored elective cesarean section respectively. In a Singaporean study<sup>(10)</sup>, only 3.7% of pregnant women preferred cesarean delivery. In a society with high a cesarean section rate (approaching 40% in 2000) such as South Korea, Lee S et al<sup>(11)</sup> indicated that only 2.8% of women showed more favorable attitudes toward cesarean section than vaginal delivery. The most outstanding reason for favoring a cesarean section of the present study participants was fear of labor pain, which is consistent with the Singaporean study<sup>(10)</sup>. Epidural anesthesia may offer an alternative to cesarean section for women who fear labor pain; nevertheless, the number of anesthesiologists in Thailand is too limited to provide this service in every hospital. In some countries, the popularity of elective cesarean section stems from the belief that abdominal delivery can preserve sexual satisfaction<sup>(14)</sup>. Nevertheless, that belief may not have been a major concern of the present study participants since only one fifth of women agreed with this attitude, and only 3.9% of them perceived it as the main reason for an elective cesarean section. Similar to the authors'

results, a national survey of Swedish pregnant women found that a prior cesarean delivery and an advanced maternal age were the predictors for women's preference of cesarean delivery<sup>(2)</sup>. Moreover, a Swedish study reported that the wish for cesarean section was not associated with well-educated or urban women, which is also consistent with the present study. However, multiparous women, the other predictor contributing to the wish for cesarean section in the Swedish study was not supported by the authors'. Gamble et al<sup>(15)</sup> reported that few women requested a cesarean delivery in the absence of previous or current obstetric problems. This assumption may explain why prior cesarean delivery and an advanced maternal age are the independent predictors for the present participants' favorable attitudes toward cesarean section. The patients' attitudes associated with cesarean delivery on maternal request are different according to ethnicity and geographic locations. A majority (71.3%) of Chinese, Malay and Indian women living in Singapore stated that women should have the right to request a cesarean delivery<sup>(10)</sup>. On the other hand, only 5% of Black, Hispanic and non-Hispanic women living in New York thought that cesarean delivery on maternal request was advisable<sup>(12)</sup>. Thirty-two percent of Thai respondents in the present study stated that cesarean delivery on maternal request was their right. It is difficult to predict the outcomes if a policy for cesarean delivery on maternal request were to be introduced in Vajira Hospital. Although nearly 80% of the present study women who disclosed that cesarean delivery on maternal request was their right still preferred vaginal delivery, this group of women significantly increased tendency to choose cesarean section for their mode of delivery (RR 2.5, 95% CI 1.5 to 4.1). However, this policy will improve maternal satisfaction resulting from the opportunity to take part in decision the making.

Prospective collection of data with standard questionnaire is the strength of the present study; however, it has some limitations. Because the present study participants may not represent pregnant women in other settings, such as in non-medical school or private hospitals, there may be dissimilarity of the attitude and preference between these women. Apart from the pregnant women, future research may be needed to explore the attitudes of Thai obstetricians, nurses, and healthcare practitioners that may have an influence on maternal attitudes towards mode of delivery.

In conclusion, the present study showed that the majority of Thai pregnant women attending a university hospital in Bangkok preferred vaginal delivery than cesarean section. The right to request cesarean as the mode of delivery was cited in almost one-third of the women. Information regard to the advantages and risks of each mode of delivery should be fully informed to the pregnant women to optimized cesarean section rate and achieve favorable perinatal outcomes.

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#### **Potential conflict of interest**

None.

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## ทัศนคติและความชอบของหญิงตั้งครรภ์ไทยต่อวิธีการคลอด

วรลักษณ์ ยมะสมิต, สุรสิทธิ์ ชัยทองวงศ์วัฒนา

**วัตถุประสงค์:** เพื่อสำรวจทัศนคติและความชอบของหญิงตั้งครรภ์ไทยต่อวิธีการคลอด

**วัสดุและวิธีการ:** หญิงตั้งครรภ์ที่มารับบริการที่คลินิกฝากครรภ์ วชิรพยาบาลเข้าร่วมการศึกษาจำนวน 415 ราย ข้อมูลการวิจัยได้จากแบบสอบถามซึ่งตอบด้วยตนเองโดยผู้ร่วมวิจัยที่เข้าเกณฑ์การศึกษา

**ผลการศึกษา:** ผู้ร่วมวิจัยเพียงร้อยละ 3.1 ที่ตอบแบบสอบถามหมวดความรู้ได้ถูกต้องทั้งหมด ส่วนใหญ่ของผู้ตอบแบบสอบถาม (ร้อยละ 87.5) ชอบการคลอดทางช่องคลอด เหตุผลส่วนใหญ่สำหรับกลุ่มที่ชอบการคลอดทางช่องคลอดคือ ต้องการให้เป็นกระบวนการธรรมชาติ ขณะที่การกลั้วการเจ็บครรภ์คือเหตุผลที่พบบ่อยที่สุดของกลุ่มที่ชอบการคลอดโดยวิธีผ่าท้องทำคลอด ปัจจัยสำคัญที่สามารถทำนายความชอบการคลอดโดยวิธีผ่าท้องทำคลอดคือ การที่หญิงตั้งครรภ์เคยคลอดโดยวิธีผ่าท้องทำคลอดมาก่อน (ความเสี่ยงสัมพัทธ์ 11.1, ความเชื่อมั่นร้อยละ 95 เท่ากับ 4.7 ถึง 26) ผู้ร่วมวิจัยร้อยละ 32 คิดว่าการผ่าท้องทำคลอดตามการร้องขอเป็นสิทธิของหญิงตั้งครรภ์ และหญิงตั้งครรภ์ควรมีส่วนร่วมในการตัดสินใจเลือกวิธีการคลอด อย่างไรก็ตามถึงแม้ว่าหญิงตั้งครรภ์กลุ่มที่คิดว่าการผ่าท้องทำคลอดตามการร้องขอเป็นสิทธิของตน หญิงตั้งครรภ์กลุ่มนี้ร้อยละ 77.3 ยังคงชอบที่จะคลอดทางช่องคลอด

**สรุป:** แม้ว่าอัตราส่วนของหญิงตั้งครรภ์ไทยที่ประสงค์จะผ่าท้องทำคลอดสูงกว่าผู้หญิงในประเทศอื่น แต่ส่วนใหญ่ของผู้เข้าร่วมวิจัยยังคงชอบการคลอดทางช่องคลอด