

STUDY ON DELIVERY METHODS AMONG FULL-TERM PRIMIPAROUS WOMEN AGED OVER 35 AT THAI NGUYEN NATIONAL HOSPITAL

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ABSTRACT

Background: Primiparous women over 35 years old have a higher risk of pregnancy and delivery complications.

Objective: To study the delivery methods among full-term primiparous women aged over 35 at Thai Nguyen National Hospital in 2024. **Methods:** A descriptive cross-sectional study was conducted on 45 primiparous women aged 35 and above with singleton, live fetuses in cephalic presentation at term who delivered at Thai Nguyen National Hospital from January 1 to December 31, 2024.

Results: The mean maternal age was 37.8 ± 2.7 years, and the mean gestational age was 38 weeks and 3 days ± 1 week and 2 days. The majority of patients (88.9%) were admitted before labor onset. The cesarean section rate was 88.9%, while vaginal deliveries with episiotomy accounted for 11.1%.

Conclusion: The cesarean section rate is high among full-term primiparous women over 35 years old.

Keywords: Cesarean section, primiparous, labor.

1. INTRODUCTION

In recent years, the trend of delayed childbearing has increased significantly worldwide, particularly in developing countries and urban areas. However, advanced maternal age is considered a significant risk factor affecting pregnancy outcomes and childbirth. Primiparous women aged over 35 are at higher risk for complications such as gestational hypertension, gestational diabetes, placenta previa, placental abruption, cesarean section, intrauterine growth restriction, as well as fetal genetic abnormalities (e.g., Down syndrome). Additionally, rates of preterm birth, fetal distress, and labor complications tend to be higher in this group. Pregnancies in women aged 35 and older are associated with increased maternal and neonatal mortality. Advanced maternal age is also linked to a higher likelihood of cesarean delivery.¹ A study by Saed M. Ziadeh demonstrated that primiparous women aged 35 and above have a greater risk of antepartum, intrapartum, and neonatal complications compared to primiparous women

aged 25-29.² Research on the characteristics, risks, and pregnancy outcomes in primiparous women over 35 years old is essential to provide scientific evidence for antenatal care, pregnancy management, and the development of appropriate medical guidelines.

Objective: To study the delivery methods among full-term primiparous women aged over 35 at Thai Nguyen National Hospital in 2024.

2. SUBJECTS AND METHODS

2.1. Inclusion criteria: Primiparous women aged 35 years or older with singleton, live fetuses in cephalic presentation at term who delivered at Thai Nguyen National Hospital between January 1 and December 31, 2024.

2.2. Exclusion criteria: Patients who did not provide sufficient information or refused to participate in the study.

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2.3. Study period and location: From January 1 to December 31, 2024, at Thai Nguyen National Hospital.

2.4. Study design and methods

2.4.1. Study design: Descriptive, cross-sectional study.

2.4.2. Sample size: Total sampling.

2.4.3. Sampling technique: Purposive sampling.

2.4.4. Data Collection Tools and Methods: Data were collected using standardized case report forms. Subjects were screened, and data were obtained through observation and interviews.

2.4.5. Variables: Maternal age, gestational age, reason for hospital admission, mode of delivery, and other relevant clinical data.

2.5. Data analysis: Results were presented as absolute numbers and percentages.

2.6. Ethical Considerations: The study was approved by the Ethics Committee for Biomedical Research at Thai Nguyen University of Medicine and Pharmacy, under approval number 774/ĐHYD-HĐĐĐ, dated July 19, 2024.

3. RESULTS

Table 1. Maternal Age and Gestational Age Characteristics in the Study

Characteristics		Number (n=45)	Percentage (%)
Maternal Age Group (years)	35 – 39	34	75,6
	40 – 44	10	22,2
	≥ 45	1	2,2
	Mean Maternal Age	37,8 ± 2,7	
Gestational Age Group (weeks)	37	2	4,4
	38 - 40	43	95,6
	Mean Gestational Age	38,4 ± 1,34	

Comment: The mean maternal age was 37.8 ± 2.7 years. The mean gestational age was 38.4 ± 1.34 weeks (equivalent to 38 weeks and 3 days ± 1 week and 2 days).

Table 2. Admission Status of Study Subjects (n = 45)

Characteristics		Number (n=45)	Percentage (%)
Reason for Admission	Abdominal pain	35	77,8
	Vaginal fluid leakage	3	6,7
	Vaginal bleeding	5	11,1
	Other reasons	2	4,4
Membrane Status	Intact membranes	42	93,3
	Ruptured membranes	3	6,7
Fetal Presentation	Cephalic presentation	39	86,7
	Breech presentation	6	13,3

Comment: The most common reason for admission was abdominal pain (77.8%). The majority of patients had intact membranes (93.3%), and cephalic presentation accounted for 86.7% of cases.

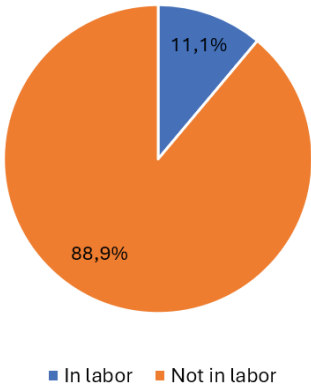


Figure 1. Labor Status of Study Subjects upon Admission

Comment: The majority of study subjects (88.9%) were admitted not in labor.

Table 3. Distribution of Delivery Methods Among Study Subjects

Delivery method		Number (n=45)	Percentage (%)
Vaginal delivery	Episiotomy	5	11,1
Cesarean section		40	88,9
Total		45	100

Comment: The cesarean section rate accounted for 88.9%, while vaginal delivery with episiotomy accounted for 11.1%.

Table 4. Distribution of Newborn Birth Weights

Birth Weight (grams)	Number (n=45)	Percentage (%)
1500 – 2499	3	6,7
2500 - 2799	3	6,7
2800 - 3499	22	48,9
≥ 3500	17	37,8
Total	45	100

Comment: The majority of newborns (48.9%) had birth weights between 2800 and 3499 grams. Newborns weighing ≥ 3500 grams accounted for 37.8%. Those with birth weights between 1500–2499 grams and 2500–2799 grams each accounted for 6.7% of the total.

4. DISCUSSION

This study was conducted at the Obstetrics and Gynecology Center of Thai Nguyen National Hospital from January 1 to December 31, 2024, enrolling 45 primiparous women aged 35 years or older who met the inclusion criteria.

The research team analyzed and discussed the following results:

Regarding maternal age, the majority (75.6%) were between 36 and 39 years old, followed by the 40–44 age group (22.2%), with a mean maternal age of 37.8 ± 2.7 years. These findings are consistent with the study by Truong Thi Linh Giang and Ly Thi Cam Nhung (2017), which reported a mean age of 37.35 ± 2.97 years, with the youngest participant being 35 and the oldest 46 years old.³

The mean gestational age was 38.4 ± 1.3 weeks (equivalent to 38 weeks and 3 days ± 1 week and 2 days). The study focused on full-term pregnancies (gestational age ranging from 37 to 41 weeks) to ensure comparability regarding delivery methods among the study population.

Regarding the reasons for admission, abdominal pain accounted for 77.8%. The majority of patients had intact membranes (93.3%), and cephalic presentation was observed in 86.7% of cases (Table 2). However, Figure 1 shows that only 11.1% of subjects were actually in labor upon admission, while 88.9% were not. This suggests a high rate of prodromal labor or false labor in primiparous women over 35 years old. Additionally, as the study population consists of primiparas aged over 35,

concerns about pregnancy outcomes and planned delivery dates often lead to hospital admission before the onset of true labor, explaining the high percentage (88.9%) admitted not in labor.

Table 3 indicates that cesarean section accounted for 88.9%, while vaginal delivery with episiotomy accounted for 11.1%. Among the cesarean deliveries, most were elective. Only one case was due to maternal congenital deaf-mutism, while the others were performed at the mother's request rather than trial labor. There is a notable discrepancy between the high cesarean rate and the low rate of vaginal delivery monitoring. This difference primarily reflects the current emphasis on neonatal and maternal safety; when risks of difficult labor or maternal complications are identified, early cesarean delivery is often chosen rather than waiting for spontaneous labor.

Moreover, cultural factors in Vietnam, such as the importance placed on having children to continue the family line, advanced maternal age, and the value of the pregnancy as a “precious child,” contribute to the preference for planned cesarean delivery. Social pressures and patient preferences also influence this trend; even with counseling, many patients prefer cesarean delivery and may seek care elsewhere if denied this option. These factors significantly affect delivery outcomes among older pregnant women and the general obstetric population.

This finding aligns with the study by Pham Thanh Long (2021) at Ca Mau Obstetrics and Pediatrics Hospital, which reported a cesarean section rate of 81.13% among women aged 35 and older.⁴

All vaginal deliveries in the study group occurred in women who were in active labor upon admission, and all required episiotomy. Among these cases, two experienced complex third-degree perineal tears, which necessitated prolonged antibiotic treatment, extended hospital stays, increased pain duration, and higher treatment costs.

Regarding newborn birth weight, the largest proportion (48.9%) weighed between 2800 and 3499 grams. Infants weighing ≥3500 grams accounted for 37.8%, including one case of a macrosomic infant weighing 4100 grams born to a mother with gestational diabetes.

A study by Ukba Asefa demonstrated that older mothers had significantly higher adverse pregnancy outcomes (64.6% vs. 37.8%) compared to mothers of reproductive age. This study reported that advanced maternal age was statistically associated with increased risks of gestational hypertension (AOR = 3.14, 95% CI: 1.931–5.089), cesarean section (AOR = 2.59, 95% CI: 1.775–

3.790), preterm birth (AOR = 3.01, 95% CI: 1.441–6.297), and perinatal mortality (AOR = 2.46, 95% CI: 1.360–4.42).⁵

Another study focusing on mothers aged over 40 identified advanced maternal age as an independent risk factor for gestational diabetes (ages 40–44: OR 2.10, 95% CI 1.80–2.45; ≥ 45 : OR 2.83, 95% CI 1.79–4.46) and early-onset preeclampsia (ages 40–44: OR 2.10, 95% CI 1.63–2.70; ≥ 45 : OR 3.16, 95% CI 1.68–5.94).⁶

Maternal age over 40 was also associated with increased risks of placental abruption (aOR 3.44, 95% CI 1.47–8.03), significant for gestational age infants (LGA) (aOR 1.47, 95% CI 1.09–1.98), stillbirth (aOR 2.67, 95% CI 1.16–6.14), and congenital ear malformations (aOR 13.92, 95% CI 3.91–49.57).⁷

In our study, no severe adverse outcomes such as maternal or neonatal death were recorded. However, the exceptionally high cesarean section rate is an alarming signal for obstetricians and reproductive health services regarding this maternal age group.

5. CONCLUSION

The primary method of delivery among primiparous women over 35 years old was cesarean section, often accompanied by maternal or fetal complications. Therefore, it is recommended that these pregnant women deliver at specialized hospitals equipped with emergency obstetric and neonatal care services, where high-quality maternal and newborn care can be expected.

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