

ASSESSMENT OF MATERNAL SATISFACTION WITH EPIDURAL AND NON-EPIDURAL ANALGESIA SERVICE AT THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY AT BACH MAI HOSPITAL IN 2025

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ABSTRACT

Objective: To describe the satisfaction of parturients using the labor analgesia service with epidural anesthesia and to identify factors associated with their satisfaction.

Method: A cross-sectional study was conducted on 111 women who experienced vaginal deliveries at the Department of Obstetrics and Gynecology at Bach Mai Hospital, Hanoi, from July to September 2025.

Result: The majority had a high level of education and expressed concern about labor pain. Over 90% of women were satisfied with the analgesia service package in terms of facility quality, staff attitude, and administrative procedures. The continued care, encouragement, and positive support provided by midwives significantly influenced women's satisfaction ($p < 0.01$).

Conclusion: Most mothers were satisfied with the quality of the labor analgesia service. Midwives' attention, care, and emotional support play an essential role in enhancing the childbirth experience and women's satisfaction. Strengthening midwives' communication and counseling skills is crucial for improving patient care.

Keywords: Patient satisfaction; epidural anesthesia; midwife; vaginal delivery.

1. INTRODUCTION

Pain during labor is one of the major factors that significantly impacts the health of both the mother and the infant. Labor pain could be associated with adverse maternal outcomes during the intrapartum period, especially in women with comorbid conditions such as cardiovascular, respiratory, or endocrine disorders [1]. Therefore, pain relief interventions are suggested during labor. These interventions not only help reduce the level of pain labor but also reduce the risks of both physical and psychological complications for the mother and infant [2].

Several pain relief methods are recommended during labor, including psychological therapy, acupuncture, transcutaneous electrical nerve stimulation, systemic analgesics, and regional anesthesia [2, 3]. Among these, epidural analgesia—using a combination of local anesthetics and opioid analgesics—is the commonly used intervention because it provides highly effective pain relief, minimally affects uterine contractions, and results in fewer neonatal depressant effects since ensuring a minimum of the anesthetic drugs cross the

placenta compared to systemic analgesics. Additionally, the dosage of anesthetics can be easily adjusted based on the mother's pain level through the use of an epidural catheter, allowing for prolonged pain management [1, 2, 4].

At the Department of Obstetrics and Gynecology at Bach Mai Hospital, epidural analgesia has been implemented for pain relief during vaginal delivery. However, research evaluating maternal satisfaction with epidural analgesia during labor remains limited. Therefore, this study was conducted with two objectives: (1) to describe maternal satisfaction with the epidural analgesia service package during labor, and (2) to assess factors associated with maternal satisfaction among the study participants.

2. METHODOLOGY

2.1. Study design: Cross-sectional study.

2.2. Study setting and duration: Department of Obstetrics and Gynecology at Bach Mai Hospital, from July 2025 to September 2025.

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2.3. Study population: Women who had vaginal deliveries in the delivery room and agreed to participate in the study at the Department of Obstetrics and Gynecology at Bach Mai Hospital.

2.4. Sample size and sampling method: A convenience sampling method was used. Eligible participants were invited to join the study, provided written informed consent, and were interviewed by trained research staff. A total of 111 women participated in this study.

2.5. Data collection, instrument, and procedures

Participants were interviewed using a structured questionnaire. The variables included socio-demographic and obstetric/epidemiological characteristics, as well as an evaluation of the quality of the pain relief service package in terms of administrative procedures, facilities, care provided by midwives and physicians, and mothers' perceptions of service use. Mothers were considered "satisfied" if they rated all aspects of service quality positively.

The questionnaire was refined based on pilot interviews with 10 pregnant women and expert feedback to ensure coherence and consistency before the official data collection. The reliability of the measurement scale was assessed using Cronbach's Alpha to evaluate internal consistency among the questionnaire items [5].

2.6. Data analysis

This study was analyzed using STATA version 17.0. Descriptive analyses were performed, and Chi-square or Fisher's Exact tests were used to assess differences in satisfaction with epidural analgesia services among mothers. A p-value < 0.01 was considered statistically significant.

2.7. Ethical considerations

Participants were informed about the purpose of the study and provided written consent before their participation. They had the right to withdraw at any time. All personal information was kept confidential and used solely for research purposes.

3. RESULTS

Table 1. General information about participants

| Characteristics | n | % |
|-------------------------------------|-----|------|
| Education | | |
| Highschool | 9 | 8.1 |
| Undergraduate (University/ College) | 39 | 35.1 |
| Postgraduate | 63 | 56.8 |
| Total | 111 | 100 |
| Marital status | | |
| Single | 107 | 96.4 |
| Married | 4 | 3.6 |
| Total | 111 | 100 |

| Characteristics | n | % |
|---|-----|------|
| Experience the epidural analgesia service before | | |
| No | 97 | 87.4 |
| Yes | 14 | 12.6 |
| Total | 111 | 100 |
| Fear of labor pain | | |
| No | 33 | 29.7 |
| Yes | 78 | 70.3 |
| Total | 111 | 100 |

Table 1 shows the socio-demographic characteristics. The majority of participants had postgraduate education (56.8%), followed by those with a university or college degree (35.1%). Regarding marital status, most participants were single (96.4%).

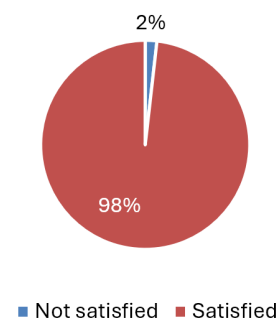


Figure 1. Satisfaction with the pain relief service package

Figure 1 indicates that 98% of the mothers were satisfied with the epidural analgesia service package.

Table 2. Characteristics of the epidural analgesia service package

| Characteristics | n | % |
|--|-----|------|
| Information transparency | 110 | 99.1 |
| Facilities and equipment | 109 | 98.2 |
| Healthcare staff attire in the delivery room | 110 | 99.1 |
| Procedure implementation | 110 | 99.1 |
| Healthcare staff attitude | 110 | 99.1 |
| Administrative procedures | 109 | 98.2 |
| Service quality | 110 | 99.1 |
| Encouraged to ask questions | | |
| Questions answered | 110 | 99.1 |
| Felt privacy was respected | 110 | 99.1 |
| Felt respected | 110 | 99.1 |
| Felt comfortable using the service | 110 | 99.1 |
| Concerned about complications | 110 | 99.1 |

| Characteristics | n | % |
|---------------------------------------|------|------|
| Felt pain-free when using the service | 100 | 90.1 |
| Cronbach's Alpha value | 110 | 99.1 |
| Information transparency | 0.98 | |

Table 2 presents the questionnaire items related to the quality of epidural anesthesia services. The results show that most participants provided positive evaluations across all aspects. Factors such as information transparency (99.1%), procedure implementation (99.1%), healthcare staff attitude (99.1%), and service quality (99.1%) all achieved high levels of satisfaction. Cronbach's Alpha value of 0.98 indicates a high level of reliability and consistency of the measurement scale.

Table 3. Associated factors related to satisfaction with the epidural analgesia service package

| Characteristics | Not satisfied (%) | Satisfied (%) | p-value |
|--|-------------------|---------------|----------|
| Education | | | |
| Highschool | 0 | 35.8 | 0.46 |
| Undergraduate (University/ College) | 100 | 56 | |
| Postgraduate | 0 | 8.3 | |
| Total | 100 | 100 | |
| Marital status | | | |
| Single | 0 | 3.7 | 0.78 |
| Married | 100 | 96.3 | |
| Total | 100 | 100 | |
| Experience the epidural analgesia service before | | | |
| No | 100 | 87.2 | 0.59 |
| Yes | 0 | 12.8 | |
| Total | 100 | 100 | |
| Fear of labor pain | | | |
| No | 0 | 30.3 | 0.35 |
| Yes | 100 | 69.7 | |
| Total | 100 | 100 | |
| The midwife monitored the entire epidural process until delivery | | | |
| Don't know | 100 | 0 | p < 0.01 |
| Agree | 0 | 3.2 | |
| Strongly agree | 0 | 96.8 | |
| Total | 100 | 100 | |

| Characteristics | Not satisfied (%) | Satisfied (%) | p-value |
|--|-------------------|---------------|----------|
| The midwife monitored the analgesic effect | | | |
| Don't know | 100 | 0 | p < 0.01 |
| Agree | 0 | 3.2 | |
| Strongly agree | 0 | 96.8 | |
| Total | 100 | 100 | |
| The midwife encouraged and provided supportive interaction with the mother | | | |
| Don't know | 100 | 0 | p < 0.01 |
| Agree | 0 | 3.2 | |
| Strongly agree | 0 | 96.8 | |
| Total | 100 | 100 | |

Table 3 shows that educational level, marital status, prior experience with the service, and fear of labor pain were not significantly associated with satisfaction. Positive midwives' care activities were significantly associated with satisfaction ($p < 0.01$), with a high satisfaction rate of 96.8%.

4. DISCUSSION

The study results showed that most of the included mothers were satisfied with the epidural analgesia pain relief service package. In addition, a high prevalence of participants had higher education levels and were concerned about the fear of labor pain when choosing vaginal delivery. Strengthening midwives' competencies in care, counseling, and monitoring plays an essential role in supporting the psychological well-being and satisfaction of mothers using the epidural analgesia service during labor.

Our study revealed that more than 70% of mothers had a fear of labor pain, indicating psychological support combined with a positive consultant for pain relief support during childbirth. In this study, most participants had college, university, or postgraduate education and chose vaginal delivery; therefore, they tended to have higher expectations for methods that have a lower risk of adverse maternal outcomes and minimize pain. Furthermore, continued care, encouragement, and positive support from midwives significantly impact maternal satisfaction [6]. Mothers who received continuous observation and supportive interaction with midwives throughout the epidural procedure reported a high satisfaction rate (96.8%), whereas those who did not receive such support were dissatisfied. This finding highlights the central role of midwives in enhancing the childbirth experience, improving service quality, and mothers' well-being.

Our study showed that the majority rated their satisfaction as high (over 98%) across most aspects, including transparency of information, staff attitude,

facilities, and administrative procedures. This result was higher than that reported in studies by Nguyễn Đình Tuyển and Nguyễn Tiến Dũng conducted among women giving birth at Quang Ngai Obstetrics and Pediatrics Hospital in 2020 [4]. Moreover, most mothers indicated that they were encouraged to ask questions, that their concerns were addressed, and that they felt respected and comfortable while using the service. Cronbach's Alpha of 0.98 confirmed the measurement scale's very high internal reliability, indicating strong consistency among the items in reflecting the quality of pain relief during labor. This may explain the high satisfaction rate among women who use the service at the Department of Obstetrics at Bach Mai Hospital.

Overall, the study highlights that professional competence combined with emotional support and attentive care from midwives positively influences maternal satisfaction with the epidural analgesia service during labor. Therefore, enhancing midwives' communication, psychological support, and continuous care skills—while maintaining high-quality facilities and service procedures—is essential to improve the positive experience during labor.

5. CONCLUSION

Our study pointed out that there is a relatively high level of satisfaction among mothers who experience vaginal delivery using the epidural analgesia service package at the Department of Obstetrics and Gynecology at Bach Mai Hospital. The continued care and supportive interaction provided by midwives had a significant impact on maternal satisfaction, highlighting the crucial role of midwives in enhancing the childbirth experience and improving satisfaction with the pain relief services.

Therefore, it is essential to strengthen midwives' communication skills, continuous care, and psychological support, while maintaining and improving service quality and facilities to enhance maternal satisfaction and safety during childbirth.

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