

An Observational Study on the Knowledge and Awareness of Labor Analgesia among Expectant Mothers Visiting the Antenatal Clinic

M Lawanya¹, S Anand², S Induja³

¹Student, Department of Anaesthesiology, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education (Deemed to be University), Chennai, Tamil Nadu, India, ²Professor, Department of Anaesthesiology, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education (Deemed to be University), Chennai, Tamil Nadu, India, ³Post Graduate Resident, Department of Anaesthesiology, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education (Deemed to be University), Chennai, Tamil Nadu, India

Abstract

Introduction: An efficient anesthetic method for reducing pain during childbirth is labor analgesia, particularly epidural analgesia (EA). This study aims to enhance the knowledge of expectant mothers regarding this anesthetic technique by administering questionnaires at different stages of labor. By doing so, expectant patients at the prenatal clinic can become more informed about EA during their third trimester. Expectant mothers who lack knowledge about this anesthesia technique will be educated through clear explanations. Implementing this educational routine about EA for expectant mothers seeking normal vaginal delivery at obstetric and gynecology clinics can help raise awareness among a broader population. This, in turn, can alleviate the fear of pain during labor.

Methods: A study was conducted at Chettinad Hospital and Research Institute, Kelambakkam, employing questionnaires to assess pregnant patients' knowledge about EA. The results were evaluated based on information obtained through open discussions with the study population.

Results: The study examined parturients' awareness of EA during delivery. It involved 100 expectant mothers, with 52% being primigravida and 48% multigravida. Only 9% were familiar with the procedure, while 91% were not. Reasons for refusing EA included planning a cesarean (22%), concerns about complications (12%), fear of the epidural injection (16%), family restrictions (3%), fear of back pain (10%), disbelief in painless labor (4%), a desire to consult family (14%), and other reasons (1%). After being informed about painless labor, 28% of the respondents were willing to receive EA, while 72% were not.

Conclusion: The study revealed that most respondents were unaware of EA for painless labor, with only a small proportion knowing based on their educational background. It also highlighted that some women faced social restrictions that prevented them from accepting this procedure. The study suggests more educational programs and information dissemination for pregnant women visiting antenatal clinics.

Key words: Expectant mothers, Epidural analgesia, Labor analgesia, Pain

INTRODUCTION

Vaginal delivery is the natural childbirth method, but it often brings anxiety and conflicting emotions to pregnant women.^[1,2] Labor pains can be intense, leading to a desire for pain relief.

Techniques such as inhalational gas, parenteral opioids, and the neuraxial approach (epidural or combination epidural and spinal analgesia) have been used.^[3,4] In the USA and Europe, epidural analgesia (EA) is recommended to reduce labor pains in over 70% of women.^[4] However, few Asian and African maternity hospitals use such pharmaceutical techniques.^[5-8] Some women still believe in enduring natural labor pain.^[9,10] EA, a cornerstone of neuraxial labor pain relief, offers sustained relief, even during cesarean deliveries.^[11]

Epidural analgesia (EA) offers quick pain relief during childbirth. It involves a needle in the protective epidural

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Corresponding Author: Dr. S Induja, Post Graduate Resident, Department of Anaesthesiology, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education (Deemed to be University), Tamil Nadu, India.

area of the spine, resulting in lower-body sensory blockage. Bolus injections initiate analgesia while a catheter or pump maintains it. Despite its effectiveness, some women avoid EA due to ignorance.

Epidural analgesia (EA) can mask uterine rupture symptoms, potentially delaying diagnosis. Regional anesthesia, such as an epidural, hinders symptom assessment. It may also affect the mother's response to hemorrhage due to sympathectomy, halting compensatory reactions. Despite concerns, neuraxial analgesia use during TOLAC is not banned. EA efficiently blocks pain signals to the spinal cord and provides superior pain relief.^[11,12] Past international investigations found a limited understanding of EA's functions and side effects.^[13,14]

EA is a well-accepted method for pain relief during labor, providing 90–95% pain relief without slowing the first stage of labor. It involves injecting local anesthetics and opioids into the lumbar epidural region. Although effective and safe with minimal impact on newborns, it is contraindicated in some cases, such as patient refusal and bleeding disorders. Potential complications include hypotension, prolonged labor, and infection.

Aim

This study will observe the knowledge and awareness of EA for painless labor among expectant mothers visiting the antenatal clinic.

MATERIALS AND METHODS

This observational study was done on 100 participants chosen through convenience sampling at Chettinad Hospital and Research Institute, Kelambakkam. The subjects included expectant mothers visiting an antenatal clinic during their third trimester, who provided consent for education about labor analgesia, were aged over 18 years and were planned for normal vaginal delivery. Exclusion criteria encompassed patients with no interest in learning about labor analgesia, those below 18 years of age, individuals scheduled for elective cesarean section, and those fearing complications.

The study was carried out in the Obstetric and Gynecology outpatient department after receiving clearance from the Institutional Human Ethics Committee at Chettinad Hospital and Research Institute, Kelambakkam, among 100 expectant mothers visited the antenatal clinic. After obtaining informed consent from the patients, those willing to know more about EA were included.

In this analytical study, the expectant mothers in their 36th week who visited the Obstetric and Gynecology

Department were given a questionnaire to know their awareness of labor analgesia. Interested patients were provided education about the procedure of this anesthesia technique. The data were analyzed using descriptive statistical methods.

RESULTS

Among the 100 parturients selected for the study during their antenatal checkup, 34% were in the 20–25 years age group, 45% were in the 26–30 years age group, 18% were in the 31–35 years age group, and 3% were in the 36–40 years age group. Of these participants, 52% were primigravida, and 48% were multigravida. Regarding education, 25% had completed secondary schooling, while 75% were degree holders [Table 1]. Among the multigravida in the study, 46% had experienced painful labor, 29% reported feelings of anxiety, 8% experienced depression, and 17% had no fear as they had previously undergone a C-section due to medical indications during labor.

During the survey of parturients visiting the antenatal clinic, it was revealed that 74% of them expressed fear of labor pain, while 26% did not fear it. In addition, the study found that only 9% of the 100 parturients at Chettinad Hospital and Research Institute had prior knowledge of EA, while 91% were unaware of this technique. Furthermore, within the same study population, 6% were aware of the EA offered by the hospital for painless labor, while the remaining 94% remained uninformed about this pain relief option [Table 2].

In this study of 100 parturients, it was observed that 96% expressed an interest in learning more about EA, while 4% were disinterested, primarily due to apprehensions related to this novel technique. Among the participants, 35% believed that EA injection could be more painful than labor, while 65% disagreed with this perception. Fear related to EA was shared by 59% of the parturients who had no fear, 16% who feared the injection, 15% who feared complications, 9% who feared back pain, and 1% who had no belief in EA. The reasons for declining EA during labor were diverse, with 31% planning for cesarean, 17% refusing due to potential risks, 8% fearing the injection, 4% being restricted by family, 14% fearing back pain, 6% lacking belief in painless labor, 19% wanting to discuss with family before acceptance, and 1% feeling capable of enduring labor pain [Table 3].

In this study, 48% of multigravida patients had previously experienced normal vaginal delivery, 44% had undergone a C-section, and 8% had experienced miscarriages. Among multigravida who had normal vaginal deliveries in previous

Table 1: Demographic distribution of patients by age, gravida, and qualification

Characteristics	Number of patients	Percentage
Age	20–25	34
	26–30	45
	31–35	18
	36–40	3
Gravida	Primi gravida	52
	Multi gravida	48
Qualification	Secondary school	25
	Degree holders	75

Table 2: Previous labor experience, elective LSCS, and knowledge about epidural analgesia

Characteristics	Number of patients	Percentage
Experience in previous labor	Painful	46
	Anxiety	29
	Depressed	8
Underwent elective LSCS	Fear of labor pain	74
	Did not fear labor pain	26
Knowledge about EA	Known	9
	Not known	91

LSCS: Lower segment cesarean section, EA: Epidural analgesia

Table 3: Patient awareness, attitudes, and reasons for acceptance or rejection of epidural analgesia

Characteristics	Number of patients	Percentage
Parturient awareness of EA offered by the hospital	Known	6
	Unknown	94
Parturient wants to know about EA.	Yes	96
	No	4
EA injection is more severe than labor pain	Yes	35
	No	65
Parturient fear of EA	No fear	59
	Fear of injection pain	16
	Fear of complications	15
	Fear of back pain	9
	No belief in this technique	1
	Reasons for not accepting EA	31
Reasons for not accepting EA	Planned for cesarean	17
	Due to complications	8
	Fear of injection	4
	Family restriction	14
	Fear of back pain	6
	Don't believe this technique	19
	Want to discuss with family before accepting	1
Can withstand labor pain	1	

EA: Epidural analgesia

pregnancies, 78% reported moderate pain during labor, while 22% experienced severe pain. The study also revealed that 87% of multigravida who did not opt for EA in their prior labors were unaware of painless labor, 4% did not believe in it, and 9% learned about it post-labor. Following an explanation of painless labor, 28% of the participants expressed willingness to undergo EA, while 72% remained unwilling [Table 4].

Table 4: Previous delivery mode, pain experience, reasons for not choosing EA, and willingness for epidural analgesia

Characteristics	Number of patients	Percentage
Mode of previous delivery	NVD	48
	LSCS	44
	Miscarried	8
Pain experience in previous NVD	Moderate pain	78
	Severe pain	22
Reason for not taking EA	Not known	87
	Did not believe this technique	4
	Came to know after delivery	9
Parturient willingness for EA	Willing	28
	Not willing	72

LSCS: Lower segment cesarean section, EA: Epidural analgesia

DISCUSSION

This study at Chettinad Hospital and Research Institute aimed to assess awareness of EA for painless labor among 100 expectant mothers after reaching 36 weeks of gestation. Among these participants, 52% were primigravida, and 48% were multigravida. The study population was categorized into four age groups: 34% aged 20–25, 40% aged 26–30, 18% aged 31–35, and 3% aged 36–40. Educational backgrounds varied with 25% having completed secondary education and 75% holding degrees. Multigravida mothers with previous labor experiences reported varied difficulties: 46% had challenging labors, 29% experienced anxiety, 8% dealt with depression, and 17% had no fear due to previous C-sections. 74% of expectant mothers were apprehensive about the fear of labor pain, while 26% were not. Notably, just 9% of the participants were aware of EA, and 91% were not. Of those who visited Chettinad Hospital, only 6% knew about the hospital's offer of EA for painless labor, while 94% were uninformed. Among the parturients, 96% expressed interest in learning more about EA, while 4% hesitated due to fear of this new procedure. Regarding whether an EA injection was more painful than childbirth, 35% agreed, and 65% disagreed. Within this study's group of 100 parturients, there were shared concerns about EA: 59% had no fear, 16% were apprehensive about the injection, 15% worried about complications, 9% were concerned about back pain, and 1% had doubts about EA. When examining the reasons for declining EA during labor, findings indicated that 22% had cesarean plans, 12% rejected it due to concerns, 16% were afraid of the injection, 3% faced familial restrictions, 10% were worried about back pain, 4% did not believe in painless labor, 14% wished to discuss with their family, and 1% felt that they could endure labor pain. Among multigravida women in the study, 48% had previously undergone normal vaginal deliveries, 44% had C-sections, and 8% had experienced miscarriages. Regarding previous vaginal deliveries, 78% faced moderate labor pain, while

22% encountered severe pain. The reasons for not using EA during previous labor were diverse, with 87% stating a lack of prior knowledge, 4% disbelieving in the procedure, and 9% becoming aware of it post-labor. After educating the study population on painless labor, 28% were willing to receive EA, 72% were not, and 14% wished to discuss this option with their family.

Similarly, a study in the United States by Harkins discovered a strong link between the desire for an epidural and education level.^[15] In contrast to our findings, a study in Riyadh by Alakeeli, 2018, found that factors including employment were related to the desire for EA.^[6] When giving birth, pregnant women having health-care insurance were more inclined to request EA, according to a few research done by Nguyen in 2021.^[17] In contrast to Waad, 2022 study, our research location was a public hospital that provides free medical services; hence, financial considerations did not influence decision-making Waad, 2022.^[18]

In this study, Edwards, 2019 emphasized the need to provide pregnant women with high-quality prenatal information on analgesia and anesthesia as part of their labor preparation.^[9] We have demonstrated a direct relationship between comprehensive verbal antenatal education, labor confidence, and analgesia satisfaction. Anesthetists may spend less time obtaining procedure consent if they have received adequate antenatal preparation, which enhances intrapartum information retention. By collaborating with our Obstetrician and Gynecological colleagues to highlight the value of prenatal education and providing them with the training and tools necessary, we can enhance information communication with pregnant mothers.

CONCLUSION

In this study, we found that most individuals were unfamiliar with EA for painless labor and that a very small proportion knew about it from their educational background. Due to some social constraints, many people did not accept it. We concluded that we should offer more educational programs and information to the parturients visiting antenatal clinics to reach widespread knowledge about EA to the population. Hence, many parturients

accepted to undergo EA during their labor for painless labor after we explained this technique to them.

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