

Awareness of Epidural Labor Analgesia among Postpartum Woman at Guwahati Medical College: A Cross-sectional Study

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ABSTRACT

Introduction: The labor pain is one of the most excruciating pains that a woman ever experiences during her lifetime. This led to the concept of labor analgesia in parturient females. The aim of our study was to assess the awareness regarding epidural labor analgesia (EA) among postpartum woman attending clinic of Gauhati Medical College and Hospital.

Materials and Methods: This descriptive cross-sectional study was conducted among postpartum woman attending clinics of obstetric and gynaecology department of Guwahati Medical College from June 2013 to January 2014. All postpartum woman with normal vaginal delivery were interviewed. Information was collected on a self-prepared questionnaire after proper informed consent. Data collected was evaluated using appropriate statistical methods.

Results: A total of 400 women were included in this study. Out of these 60% had no formal education while only 17.3% completed graduation. 88.5% of woman graded their experience of labor pain to be severe. The majority of women (81.25%) had knowledge about injections, whereas only 14% of women had knowledge about EA. Most of them (51.8%) came to know about EA from their obstetricians. 65.5% of woman chose injections compared to 25.5% who chose EA as preferred method of analgesia during next labor. EA related procedural anxiety was mostly noted among the women in our study population 89%.

Conclusion: There was poor general awareness regarding the role of epidural analgesia. Most of the women had gained knowledge regarding EA from their respective gynecologists.

Keywords: Epidural analgesia awareness, Epidural analgesia, Labor analgesia, Labor pain, Postpartum woman

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INTRODUCTION

The epidural labor analgesia (EA) has evolved as a popular and effective method of relieving labor pain in recent years. If timely administered, it is said to completely relieve labor pain in most of the patients without impeding the progress of the first stage of labor.¹ The availability of advanced monitoring equipment and drug delivering systems has made EA as a very safe method of pain relief during labor. In comparison to systemically administered opioids, epidural analgesia permits the mother to remain awake during the process of labor and actively participate in the birth process of her child.¹ In India, EA is a relatively newer concept and it is available only in few medical

institutions. It has been also observed that acceptance rate for epidural analgesia is very low, in the parturient. The studies conducted so far in the field of labor analgesia have maximally focused on drug trials, evaluating the efficacy of various drugs used in epidural analgesia.²⁻⁴ Research assessing the knowledge of the obstetricians and the nursing staff regarding EA has also been conducted in western setup.^{5,6} However, only a handful of studies have been conducted focusing on the parturient views regarding labor analgesia, specially EA.^{2,3,7} To increase the utility of pain-free labor, it is important to assess the consumers' perspective regarding EA. Hence, this cross-sectional study was designed to assess the awareness of EA among postpartum woman.

MATERIALS AND METHODS

After institutional clearance, this descriptive cross-sectional study was conducted among 400 postpartum patients attending the antenatal Outpatient Department of Guwahati Medical College and Hospital, Guwahati, from June 2013 to January 2014. All pregnant females who had delivered vaginally and had come for post-natal checkup within 1 week of delivery were randomly included into this study and interviewed, after taking informed consent. Primigravida were excluded from our study population to reduced participant bias, as they have greater fear and anxiety levels. Woman undergoing any previous cesarean delivery and those suffering from chronic pain were also excluded from our study population. During interview we used a closed format self-prepared questionnaire (appendix 1), which was prepared based on open feedback received from a previous pilot study on 100 postpartum woman regarding EA and labor pain. In this pilot study <10% of the patient had any knowledge about EA. This was similar to the studies of Olayemi *et al.*⁸ where only 10% of participants had knowledge of epidural analgesia. Based on these values and taking a confidence interval of 95% or $\alpha = 0.05$, and a power of 90% we calculated that a sample size of 138 woman would be sufficient. But as we wanted more accuracy results, so we took a sample size of 400. The questionnaire was also made in the local language to increase the ease of interview. Using the questionnaire, information was collected regarding women’s awareness of labor analgesia (primary outcome), sources of information, fears and misconceptions regarding epidural analgesia, etc. Data were analyzed using Graph Pad instat 3.0. The results were expressed in terms of frequencies and percentages.

RESULTS

The majority of our study population were housewives 82.5%. Around 60% had no formal education previously and only 17.5% of the population were educated till graduation. The majority of the study population 78.75% had an annual family income of <50,000. It has been seen that the 64% of our study population were second gravida woman, 30% were third gravida, and 6% were fourth or more (Table 1). Among the participants, 78.5% of our study population were aware that labor pain is a natural phenomenon, 68.5% of them believed that the intensity of labor pain could be reduced, whereas the majority (98%) believed that medications reducing labor pain could be harmful (Table 2). Only 14% of woman knew about EA. 81.25% of our study population thought that only analgesic injections could relieve labor pain (Figure 1). Post-interview 27.5% of patients wanted to undergo EA during their subsequent delivery (Table 3).

It has been noted that the 89% of the study population expressed procedural anxiety regarding epidural analgesia, 49.5% and 43.75% were concerned that there might not be progress of labor or weakness of the

Table 1: Demographic distribution

Variables	N (%)
Educational status	
No education	240 (60)
Upto 12 th standard	90 (22.5)
Graduation and beyond	70 (17.5)
Occupation	
Unemployed/housewife	330 (82.5)
Employed	70 (17.5)
Economical condition (annual income of family in INR)	
<50,000	315 (78.75)
50,000-100,000	60 (15)
>100,000	25 (6.25)
Gravida	
Second gravida	256 (64)
Third gravida	120 (30)
Fourth gravida or more	24 (6)

Table 2: Attitude and beliefs towards pain relief during labor

Variables	Number of patients		Percentage	
	Yes	No	Yes	No
Labor pain is natural	314	86	78.5	21.5
Intensity of labor pain cannot be reduced	126	274	31.5	68.5
Medications reducing labor pain could be harmful	368	32	98	8

Table 3: Preferred labor analgesia for future delivery

Variables	N (%)
Injection	262 (65.5)
Epidural	110 (27.5)
Breathing exercise	2 (0.5)
Elective caserean section	20 (5)
None	6 (1.5)

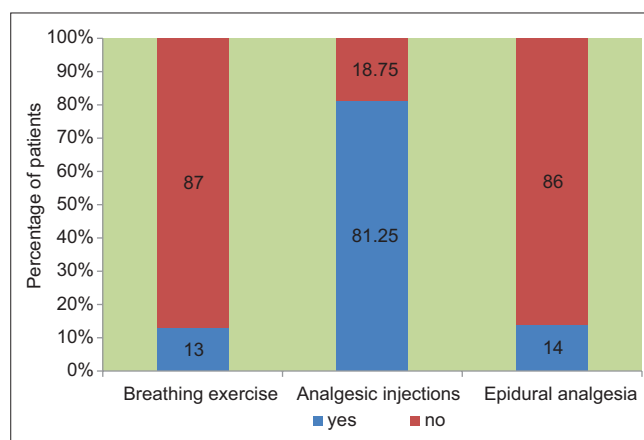


Figure 1: Knowledge of pain relief modalities for labor

limbs associated with epidural analgesia. Among the participants, the misconceptions regarding EA such as around 82.75% of our study population thought it would adversely affect the health of the baby, 89% thought that it might adversely affect the health of the mother (Table 4). When it comes to labor pain, 88.5% of our study population had quantified their experience of labor pain as severe, 7.5% experienced moderate pain, 3.5% experienced mild pain, whereas 0.5% experienced no pain during previous labor and delivery (Figure 2).

It has been seen that around 75.5% of the study population recalled that the injectables were given to them to relieve labor pain. Only 2.5% of the study population had received EA, whereas 22% received no intervention for labor analgesia (Figure 3).

Only 56 women in the study population knew about EA of them 51.8% came to know from their obstetricians, 29.6% read about in articles available online, 14.8% heard about it from friends, and least 3.7% read about it in books (Figure 4).

DISCUSSION

Our study showed that only 14% of parturient have knowledge of EA, as a labor pain relieving method.

Table 4: Fears and misconceptions regarding epidural analgesia

Variables	N (%)
Fears related to epidural analgesia	
Cause permanent backache	112 (28)
Headache	20 (5)
Unfamiliar therapy related anxiety	356 (89)
Non progress of labor	198 (49.5)
Causes weakness of limbs	175 (43.75)
Misconceptions related to epidural	
Adverse effect on health of the baby	331 (82.75)
Painless delivery cause adverse effect on Health of mother	356 (89)
Pain must be present otherwise delivery will not take place	97 (24.25)

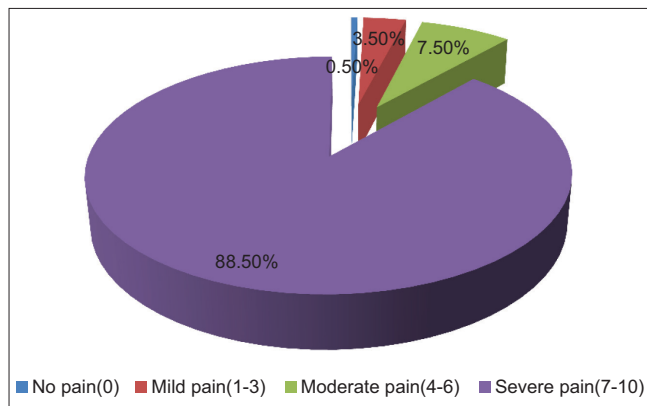


Figure 2: Intensity of labor pain experienced

Our results were comparable to the results obtained by Barakzai *et al.*⁹ but were lower than studies conducted in the UK⁷ and by Olayemi *et al.*⁸ The probable reason for this low awareness regarding EA can be attributed to the fact that 60% of our study population had no formal education number of educated females 40% coming to the hospital for delivery. The evidence suggests that education increases women’s awareness and enhances their ability to process and seek information.⁹ It has been also noticed in our study that the economic independence also has a strong impact on raising the awareness of an individual.⁴ In our study, only 17.5% of women belonged to earning class, rest were housewives. Although 14% of our study participants knew about EA as a labor pain relief modality, only a small proportion that is 2.5% of them availed it. These results were similar to that Barakzai *et al.*⁹ but less than values obtained by the UK-based studies⁷ and Olayemi *et al.*⁸ It has been also noticed that the misconceptions and fears regarding EA use are prevalent such as periprocedural anxiety, detrimental effect on the health of the baby, prolongation of the labor process leading to cesarean section, and the fear of a

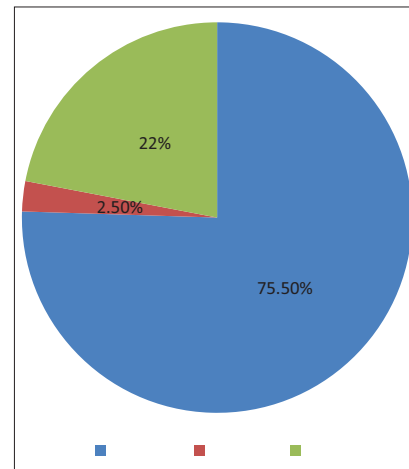


Figure 3: Evaluation of the methods of analgesia used during previous deliveries

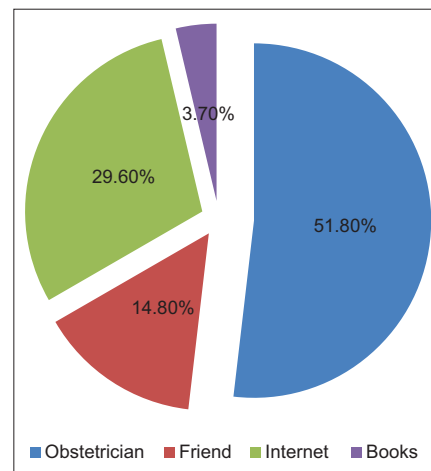


Figure 4: Sources of knowledge regarding epidural labor analgesia

chronic backache. The studies conducted in developed countries have shown similar misconceptions related to EA.^{4,7} In our study, the main source of information of the study participants for EA were their obstetricians and articles available online. The information leaflets and antenatal education classes serve as the main source of knowledge on EA for parturients.⁴ It is an undeniable fact that doctors strongly influence decision making in health practices. This highlights that obstetricians have a greater role in disseminating appropriate and accurate knowledge regarding EA and eliminating the fears and misconceptions about it. The potential limitations of our study were that it was done on a sample population where the educational status and economic condition was poor. No interventions were done on our part to increase the acceptability of labor analgesia among the study population. The results of our study cannot be generalized as it was conducted in only one center providing obstetric care and multicentric studies needed to be conducted on larger populations and in other obstetric care units to hypothesize methods of better acceptance of EA.

CONCLUSION

This study showed a poor general awareness about the role of EA among women. It is recommended that information leaflets for EA can be formulated and distributed among females coming for antenatal checkups.

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Appendix 1

Questionnaire

- Patients name:
- Age:
- Address:
- Gravida: (please tick one option only)
 - Primigravida
 - Second gravida
 - Third gravida
 - Fourth gravida or more
- Educational status: (please tick one option only)
 - No formal education
 - Upto 12th standard
 - Graduation and beyond
- Occupation (please tick one option only)
 - Unemployed/housewife
 - Employed
- Annual income of family (please tick one option only)
 - <50,000
 - 50,000-1,00,000
 - >100,000
- Any Cesarean delivery previously: (Yes/No)
- Do you think labor pain is natural: (Yes/No)
- Perception of intensity of labor pain during last child birth. (please tick one option only)
 - Severe pain (7 to 10)
 - Moderate pain (4 to 6)
 - Mild pain (1 to 3)
 - No pain
- Knowledge of pain relief modalities during labor:
 - Breathing exercises: (Yes/No)
 - Analgesic injections: (Yes/No)
 - Epidural labor analgesia: (Yes/No)
- Method of analgesia used during previous delivery (please tick one option only)
 - Epidural labor analgesia
 - Analgesic injections
 - None
- Did you have previous knowledge regarding

- epidural labor analgesia: (Yes/No)
- If yes, how did you come to know about it first (please tick one option only)
 - From your obstetrician
 - From friends
 - From articles available online
 - From books
 - Do you think intensity of labor pain can be reduced: (Yes/No)
 - Do you think that medications to relieve labor pain are harmful: (Yes/No)
 - Would you prefer labor analgesia during your next deliver: (Yes/No)
 - If No would you like opt for a Cesarean section: (Yes/No)
 - If Yes which modality will you prefer (please tick one option only)
 - Breathing exercises
 - Analgesic injections
 - Epidural labor analgesia
 - Do you have any fears relating to epidural labor analgesia (Yes/No)
 - Do you have any anxiety related to the procedure of epidural labor analgesia (Yes/No)
 - Do you think epidural labor analgesia might cause future back pain (Yes/No)
 - Do you think epidural labor analgesia might cause headache (Yes/No)
 - Do you think epidural labor analgesia might cause lower limb weakness (Yes/No)
 - Do you think epidural labor analgesia might

- cause non progress of labor (Yes/No)
- Do you think natural labor pain which is very much essential for normal child birth and it should not be decreased with epidural labor analgesia (Yes/No)
 - Do you think epidural labor analgesia might cause adverse effects to the health of the mother (Yes/No)
 - Do you think epidural labor analgesia might affect the health of the new born baby (Yes/No).
 - Would you like to know more about the modalities of labor analgesia: (Yes/No)
 - If YES please specify which one.....
 - Do you have any other queries.....
 - Would you like to return to this hospital for future deliveries (Yes/no)

Signature (or Thumb impression) of the Subject/Legally Acceptable Representative:.....

Signatory's Name _____
 ___Date_____

Signature of the Investigator _____
 Date _____

Thank You.