

ORIGINAL ARTICLE**Awareness and attitude of Indian pregnant women towards labour analgesia**

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ABSTRACT

Objective: Epidural labour analgesia has not been fully accepted and is not routinely practised in most of the centres in developing countries despite many advantages of this technique. Number of patients who demand labour analgesia is remarkably low in our hospital although the service is available. The aim of this study was to find out the awareness and attitude of pregnant Indian women attending antenatal clinic of our hospital towards labour analgesia.

Methodology: Two hundred consecutive women attending antenatal clinic of our hospital and willing to participate in the study were included in the survey; they were interviewed using a questionnaire that determined their knowledge of and attitudes regarding labour analgesia.

Results: Majority of the participants (85%) fell in the age group of 19-25 years (Range 17-36 years) and 89.5% of them belonged to the rural area. Most of them (98%) had no idea about labour analgesia but 95% of the participants expressed their interest to learn about the technique and its advantages. Level of acceptance of labour analgesia after full information was found to be significantly correlated with the level of education and socioeconomic status, fear of delivery complications, and fear of labour pains, and their eagerness to deliver without suffering from labour pains ($p < 0.05$). It was, however, not correlated to age, geographical distribution, parity, time required for last delivery and perception of intensity of labour pains during last delivery ($p > 0.05$).

Conclusion: Most of the Indian parturients still suffer from agony of labour pains due to lack of awareness. The awareness level needs to be improved about the availability of the labour analgesia service, as majority of them is keen to listen to the information provided. The involvement of obstetricians is crucial in this education program.

Key words: Awareness, Labour analgesia; Parturients

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INTRODUCTION

Epidural analgesia is the technique capable of relieving labour pain satisfactorily and is the most effective method for restoration of normal uterine activity. Epidural analgesia by relieving labour pain decreases blood catecholamine levels and significantly increases intervillous blood flow in healthy parturient.¹ However the epidural labour analgesia (ELA) has not been fully accepted and is not routinely practised

in many centres in the developing countries.² The patients do not demand for it and the obstetricians are not keen to routinely practise it for several reasons.³⁻⁸ The important reasons are paucity of qualified anaesthesiologists, and budgetary constraints. The patient load always outweighs the available resources in the developing countries and many centres still lack sophisticated equipments, such as infusion pumps and devices for patient-controlled epidural analgesia (PCEA).⁹ A Clinical audit performed to highlight

the existing attitudes and knowledge of obstetricians regarding labour analgesia, emphasized the need for better coordination and communication between the triad of obstetricians, anesthesiologists and patients¹⁰. Number of patients who demand labour analgesia is very less in our hospital in spite of labour analgesia service being available.

The aim of this study was to find out the awareness and attitude towards labour analgesia of pregnant women attending antenatal clinic of our hospital and to find out the reasons for woefully less demand for labour analgesia in spite of this service being available.

METHODOLOGY

After institutional ethics committee approval, two hundred consecutive parturients, attending antenatal clinic of our hospital were included in this cross-sectional survey from January 2011 to February 2011. Those not willing to take the survey were excluded. They were interviewed using a questionnaire that determined their knowledge of and attitudes regarding labour analgesia. A questionnaire was prepared in English and was translated and explained to patients in their mother tongue. Confidentiality of the participants was maintained.

Primary outcome measure was awareness about epidural labor analgesia, and secondary outcome measures were demographics, willingness for ELA after giving complete information to them with or without expenses and the reasons for unwillingness for ELA.

Our hospital was selected because it is a tertiary care teaching hospital and patients attending antenatal clinic represent most of the rural population. Labor analgesia service is provided by the department of Anesthesiology.

Sample size calculation: Study period was decided to be one month. Expected number of patients attending antenatal clinic during one month considering working days was about 200. So the sample size was decided to be 200. This sample size of 200 was also supported by previous similar studies.^{7,11} It was expected that over 90% participants will be without any knowledge about epidural labor analgesia. This was based on the previous studies of Olayemi O et al¹¹ wherein only 10% participants had knowledge of epidural analgesia. Oladokun A, et al⁷ also found that only 19.5% participants had the knowledge of epidural labor analgesia which was the primary outcome of our study.

We used the following formula to calculate the sample size.

$$n = \frac{\left(Z_{\alpha/2}\right)^2 p(1-P)}{d^2}$$

Z $\alpha/2$ = 1.96 (as CI is 95% or α = 5% or = 0.05 and its half is 0.025, its value is taken from table, P = 0.90 and 1-P = 0.10 d = 0.05 (precision level)

$$\begin{aligned} n &= (1.96)^2 (0.90 * 0.10) / (0.05)^2 \\ &= 3.8416 * 0.09 / (0.05)^2 \\ &= 0.345744 / 0.0025 \\ &= 138 \text{ (as per the study of Olayemi O, et al)} \end{aligned}$$

Statistical analysis was done using Stata 11 software. Chi square test was used to assess statistical significance. A p value < 0.05 was considered significant.

RESULTS

Two hundred consecutive participants willing to participate in the survey were served the questionnaire. Though the response rate was 100% and all the forms were returned, not all participants answered all questions. One to four responses were missing for some questions.

Age group: Table I shows age wise distribution of the participants. All participants were between 17 to 36 years of age; 85.5% being between 19 to 25 years and 24% being at 20 years.

Table I: Demographic distribution

Criteria	Range	No. of participants N(%)	Total
Age wise (years)	<=20	81(40.5)	200
	21-25	94(47)	
	26-36	25(12.5)	
Geographical distribution	Urban	8(4)	200
	Semi urban	13(6.5)	
	Rural	179(89.5)	
Education wise	Illiterate/can read and write	77(38.5)	200
	Upto 12 th Std	98(49)	
	Graduate/Postgraduate	25(12.5)	
Income wise (IRP)	<=10,000	69(34.85)	198
	10,001 - 50,000	113(57.06)	
	> 50,000	16(8.09)	
Gravida status	Primi	98(49.75)	197
	Second	86(43.65)	
	Third	12(6.09)	
	≥Fourth	1(0.51)	

Geographical distribution: Most of them (89.5%) were from rural areas; 4% from urban area and 6.5% were from semi urban localities.

Level of literacy: Majority of the participants (72.5%) were educated upto the level of reading and writing and 50% of them had completed their primary school education up to 10th standard; 13% of the total had higher secondary education; 11% were graduates and 1.5% were highly qualified postgraduates. Only 2% participants were illiterate.

Socioeconomic status: Majority (57%) belonged to middle income group having an average monthly income of Rs.10,001.00 to 50,000.00 ; 34.34% between 1001.00 to 10,000.00 and 7.58% between 50,001.00 to 1,00,000.00. Only 0.51% had average monthly income of more than 1,00,001 or less than 1000.

Level of previous experience of labour pains: 49.75% were primigravida and obviously had no experience of labour pain; 43.65% were second gravida, 6.09% were third gravida and 0.51% were multigravida. Out of these participants with previous experience, 53% delivered within 4 to 12 hours, 27% delivered within 4 hours, 17% needed 12 to 18 hours, 1% needed 18 to 24 hours and 2% had prolonged labour for more than 24 hours. Only one participant felt no pain, 47% had moderate, 31% mild, 16% severe and 5% had unbearable excruciating pain.

Due to this previous self experience or the experience of others, 93% participants expressed mild to moderate level of fear of labour pains, 5% participants were greatly fearful of labour pains while 2% had no fear at all.

93% had mild to moderate fear of delivery complications, 5% participants were greatly fearful, while 2% had no fear at all.

Awareness of labour analgesia: Not a single participant knew that the delivery is possible without suffering from labour pains; 3 (1.5%) were of the opinion that it was impossible; 196 (98%) did not know whether it is possible or not. An equal number had no idea about labour analgesia and 4(2% participants had little information about it which they received from their doctor.

Attitude of the participants towards labour analgesia: 138 (69%) expressed their firm willingness to get delivered without labour pains and out of them 52 (26%) were very much eager for it, 50 (25%) showed inclination for painless labour by saying that they may like it, while only 12 (6%) were not at all interested.

95% participants expressed their interest to listen to the information about labour analgesia, and out of them 30% were very much eager to get information while 5% of them showed complete lack of interest.

After receiving the full information, 12% participants

were fully ready and did not want to deliver without labour analgesia; 31% were fully ready; 15% were ready; 15% were ready to some extent while 27% were still reluctant to get this facility in spite of getting full information. When they were asked whether they are ready to spend some money for labour analgesia, 39% participants were not ready, 5% were ready to some extent, 31% were ready, 23% were fully ready while 2% participants were ready to bear any expenses. When they were asked whether they are ready if the procedure is done without any added expense, 72% were still not ready to change their decision.

22% participants were not confident about the procedure, 10% had strong belief that the labour is a natural process and does not need any intervention for analgesia, 2% had fear of getting the fetus affected, 4% had the fear of likelihood of resultant cesarean section. One participant had no confidence in the ability of the anesthesiologist. She had a strong belief that to become a mother one has to suffer the pains. Four had fear of the fetus being affected. No one expressed any fear of the likelihood of instrumental delivery and 3% of the participants failed to give any particular reason.

None of the participants had previously heard of some lady delivering under ELA.

DISCUSSION

Severe to excruciating pain is experienced by over 50% of primiparas.¹² Pain during labour can be the most intense pain known,¹³ and most of the respondent obstetricians from clinical audit study done by Bharti Taneja et al¹⁰ seem to agree to it, as 87% of these respondents wanted ELA for their patients in spite of the low level of teaching and exposure. To many it is simply inhuman to let the parturients suffer from this intense pain when efficient and safe methods of painless labour e.g. epidural analgesia are available.

In our study, majority of the respondents belonged to rural areas and a low socioeconomic stratum of the society. 93% of them had mild to moderate fear of labour pains and delivery complications and 5% were very much afraid of it. As a consequence over 70% participants expressed that they would like to deliver without pains. Unfortunately nobody from them ever knew that delivery is possible without pain and 3 of them opined that it is not possible at all. Almost all of them (98.48%) irrespective of age, education level, socioeconomic status, were not having any information about labour analgesia. The fact that over 95% participants were ready to listen to the information indicates that we are lagging behind in the area of

dissemination of this valuable information. Neighbors, relatives and Anganwadi Sevika (healthcare workers) cannot be a source of information as they themselves may not have suitable knowledge. A reliable source of information can be midwives, lady health visitors and doctors (especially anesthesiologists and obstetricians) who are the firsthand service providers. Bharti Taneja et al¹⁰ found that the majority of the obstetricians were not taught labour analgesia during their training programme and their practical exposure to the service was limited (with only 32% having conducted deliveries under epidural analgesia and only 44% had obstetric analgesia in their teaching schedule). The respondents who were satisfied (13.6%) with their teaching schedule were incidentally all foreign trained (MRCOG) consultants in private practice and also had the maximum practical exposure. This highlighted the inherent deficiencies in teaching curriculum and practical exposure in Indian medical institutions as compared to western standards. Lack of teaching, a low level of practical exposure and a prevailing confusion / ignorance regarding the maternal and neonatal benefits of ELA seem to be the biggest hurdles towards acceptance of labour analgesia among obstetricians.¹⁰ Results of a survey conducted by Pirbudak L et al⁸ also indicate that education regarding epidural analgesia, both during and after obstetric specialty training, could be improved, and this education would best be provided by anesthetists in collaboration with obstetricians. Despite receiving full information

about labour analgesia, most of the participants were still not ready for ELA. Level of acceptance was found to be significantly correlated with the level of education and socioeconomic status, fear of delivery complications, and fear of labour pains, and their desire to deliver without suffering from labour pains (Table II) ($p < 0.05$). At the same time it was not correlated to age, geographical distribution, parity, time required for last delivery, perception of intensity of labour pains during last delivery. (Table II) ($p > 0.05$). Nevertheless creating awareness by giving proper and full information about epidural analgesia would surely improve the acceptance level among the parturients. William WK³ also had similar results in their study. They also found the poor general awareness of pregnant women about proper role of epidural analgesia in labour, leading to a low patient demand for such services. Similarly for most interviewees in the study of Hug I et al², information about ELA was new (97%). Okeke CI et al⁶ also had similar results. Only 175 (38.9%) participants from their study knew of obstetric analgesia. They found a significant association between educational status and knowledge of obstetric analgesia ($p = 0.000$). There was no association between age, educational status and parity with acceptance ($p > 0.05$). Study of Oladokun A et al shows that the knowledge of labor epidural analgesia amongst Nigerian women is low.⁷ Minhas et al⁴ in their study found that majority of the pregnant females delivering at Aga Khan University Hospital (in an metropolitan set up)

Table II: Readiness for ELA after getting full information and its association with demography variables

Variable	Range	No. of participants					Total	p-value
		1*	2*	3*	4*	5*		
Age	<=20	25	7	13	23	12	80	0.05
	21-25	26	18	13	28	9	94	
	26-36	3	5	5	10	2	25	
	Total	54	30	31	61	23	199	
Geographical distribution	Urban	3	1	0	3	1	8	> 0.05
	Semiurban	1	1	3	7	1	13	
	Rural	50	28	28	51	21	178	
	Total	54	30	31	61	23	199	
Education Status	Illiterate/Only read and write	29	18	11	14	5	77	< 0.01
	Upto 12th Std	22	12	19	37	7	97	
	Graduate/Postgraduate	3	0	1	10	11	25	
	Total	54	30	31	61	23	199	
Monthly Income	<=10,000	27	13	10	13	5	68	< 0.01
	10,001 - 50,000	26	17	20	39	11	113	
	> 50,000	1	0	1	7	7	16	
	Total	54	30	31	59	23	197	
Gravida Status	Primi	26	18	17	26	10	97	> 0.05
	Second	23	11	12	30	10	86	
	Third	4	1	2	3	2	12	
	>= Fourth	0	0	0	1	0	1	
	Total	53	30	31	60	22	196	

*Response rating: 1 = Not at all; 2 = Ready to some extent; 3 = Ready; 4 = Eagar; 5 = Fully ready and unwilling to deliver without ELA

Table III: Association of readiness for epidural analgesia and other variables

Variable	Range	No. of participants					Total	p Value
		1	2	3	4	5		
Time required for last delivery	≤ 4 hrs	5	5	3	13	1	27	> 0.05
	>4 & <12 hrs	17	5	10	16	5	53	
	>12 & <18 hrs	5	2	1	4	5	17	
	>18& <24 hrs	0	0	0	1	0	1	
	>24 hrs	0	0	0	1	1	2	
	Total	27	12	14	35	12	100	
Perception of intensity of labour pains during last delivery	No pains at all	1	0	0	0	0	1	> 0.05
	Mild	11	5	5	9	1	31	
	Moderate	9	6	9	16	7	47	
	Severe	6	1	1	5	3	16	
	Excruciating and unbearable	1	0	1	1	2	5	
	Total	28	12	16	31	13	100	
Fear of delivery complications	Not at all	1	0	1	0	1	3	< 0.01
	Mild	42	20	11	30	7	110	
	Moderate	10	9	14	30	12	75	
	Very much	0	1	5	1	3	10	
	Total	53	30	31	61	23	198	
Fear of labour pains	Not at all	3	0	1	0	0	4	< 0.05
	Mild	40	24	23	37	11	135	
	Moderate	11	4	5	19	10	49	
	Very much	0	1	2	5	2	10	
	Total	54	29	31	61	23	198	
Willingness to deliver without suffering from labour pains	Not at all	10	0	0	2	1	13	< 0.01
	May like	27	16	3	3	0	49	
	Like	17	13	23	37	10	100	
	Very much like	0	1	4	17	11	33	
	Wants to deliver without labour pains only	0	0	0	2	1	3	
	Total	54	30	30	61	23	198	

*Response rating: 1= Not at all; 2=Ready to some extent; 3=Ready; 4=Eager;5=Fully ready and unwilling to deliver without ELA

were aware of epidural analgesia for labour. However, only a small proportion were availing this service, due to fears and misconceptions. Mugambe JM et al¹⁴ found that most of the women gained knowledge regarding pain relief from past experience or from friends and relatives. Even though the few women who received information about what to expect during labour found the information useful, most expressed little confidence in labour pain relief.

Limitations of our study: Our study was hospital based and most of our patients belonged to rural area. The

results from metro cities are expected to be different. Large scale, multicentre studies are required to draw final conclusions.

CONCLUSION

Most of the Indian parturients still suffer from agony of labour pains due to lack of awareness, unfounded fears and lack of availability, or a knowledge of the availability of the labour analgesia service. An awareness campaign could improve the situation with a primary role to be played by midwives and obstetricians.

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Appendix: Questionnaire

- 1) Patient's Name: _____ 2) Age: _____
- 3) Address: _____
- 4) Education: a) Uneducated b) Can read and write c) Up to 10th d) Up 12th e) Graduate f) Postgraduate
- 5) Monthly Income: a) < 1000 b) 1001 to 10000 c) 10001 to 50000 d) 50001 to 100000 e) > 100000
- 6) Gravida a) Primi b) Second c) Third d) Fourth e) More than fourth
- 7) Time required for last delivery (If applicable) a) ≤ 4 hours b) 4 to 12 hours (Excluding 4) c) 12 to 18 hours (Excluding 12) d) 18 to 24 hours (Excluding 18) e) > 24 hours
- 8) Perception of intensity of labour pains during last delivery (If applicable) a) No pains at all b) Mild c) Moderate d) Severe e) Excruciating and unbearable
- 9) Do you have the fear of delivery complications? a) Not at all b) Mild c) Moderate d) Much e) Very much
- 10) Do you have the fear of labour pains? a) Not at all b) Mild c) Moderate d) Much e) Very much
- 11) Is delivery possible without suffering labour pains? a) Yes b) No c) Do not know
- 12) Do you have information about labour analgesia? a) Not at all b) Little bit c) Moderate d) Much e) Complete
- 13) If you know about labour analgesia what is the source of your information? a) Nabourers b) Relatives c) Anganwadi Sevika d) Doctor e) Others
- 14) Would you like to deliver without suffering from labour pains? a) Not at all b) May like c) Like d) Very much like e) wants to deliver without suffering from labour pains only
- 15) Are you ready to listen the information about labour analgesia? a) Not at all b) Ready to listen provided information is given in short c) Ready d) Eagar to listen e) Want to listen, insisting for information
- 16) After getting full information about labour analgesia now are you ready for epidural labour analgesia? a) Not at all b) Ready to some extent c) Ready d) Eagar e) Fully ready and do not want to deliver without labour analgesia
- 17) Are you ready to expend some amount if required for labour analgesia? a) Not at all b) Ready to some extent c) Ready d) Fully ready e) Ready to any extent
- 18) If you are not ready to expend, if the labour analgesia procedure is done without any added expenses then are you ready to accept it? a) Yes b) No
- 19) If not ready for labour analgesia what are the reasons for unwillingness? (Choose one or more than one) a) Not confident of the procedure b) Not confident of the particular anesthesiologist c) Strong belief that the labour is a natural process and does not need any intervention for analgesia d) Strong belief that to become a mother one has to suffer the pains. e) Fear of getting the fetus affected f) Fear of need for instrumental delivery g) Fear of need for LSCS h) Cannot give any reason
- 20) Did any other woman you know, deliver with epidural labour analgesia? a) Yes b) No c) Cannot say
- 21) If yes, is that woman satisfied with epidural labour analgesia? a) Not at all b) Satisfied to some extent c) Satisfied d) Fully satisfied e) Fully satisfied and will like to have epidural labour analgesia in subsequent deliveries and will like to recommend the procedure to others