

Correlation of different parity and school education with acceptance of labor analgesia among antenatal women: A questionnaire-based study

ABSTRACT

Background and Aim: Pain relief is nearly regarded as the right of patients in modern day health care. Women undergo excruciating pain during normal vaginal delivery (NVD). However, the acceptance of labor analgesia (LA) has remained very poor. The present study was aimed to assess the correlation of previous exposure to such pain (parity) and school education with LA acceptance.

Methods: The present comparative study was conducted with a total 400 consented participants. A questionnaire was used to collect sociodemographic variables, acceptance/nonacceptance of LA, and the reasons for not opting for LA in upcoming delivery were noted. Participants were divided into primiparous, multiparous, and nulliparous (control). They were also grouped as per school education and compared taking illiterates as controls. Data are presented in absolute number. Fisher's exact test is used for comparison; $P < 0.05$ was considered statistically significant.

Results: Seventy (17.5%) multiparous and 38% primiparous participants were compared with 44.5% nulliparous women. Only 2.75% participants were illiterate. 69.50% were rural inhabitant and 81.50% believed in Hinduism. 87.14% multiparous, 84.21% primiparous, and 88.76% nulliparous women declined LA ($P > 0.05$). The desire to experience NVD without LA as a reason for nonacceptance was significantly less among primiparous and multiparous as compared to nulliparous ($P < 0.0001$), but not among literate and illiterate participants ($P > 0.295$ in all).

Conclusion: Previous labor pain significantly reduces the desire to experience NVD without LA, but still more than 80% parturients of any parity do not want LA due to one or more reasons. School education has no impact on LA acceptance.

Key words: Analgesia; labor pain; literacy; multiparity; obstetrical; pregnancy

Introduction

Childbirth is one of the most desired, anticipated, and joyful experiences in women's life. However, normal vaginal delivery (NVD) is accompanied by the most excruciating pain a woman experiences in her life. Formal labor pain relief was probably first used by John Snow and received

by Queen Victoria of England in 1853 more than 160 years ago.^[1,2] Currently, painless labor is commonly accepted in developed countries. However, labor pain relief remains a distant reality in developing countries.^[3] The year 2007–2008 was even declared as the global year against pain in women.^[4]

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Despite all these and availability of safe relief, unfortunately, labor analgesia (LA) is still not widely accepted in countries like India.^[5,6]

Many factors may affect the acceptance of LA. It is said that suffering is the best teacher, so parity (those mothers who underwent labor) is also likely to affect acceptance of LA. Cultural beliefs and many myths also influence it.^[5] On the other hand, school education can affect myths and disbeliefs. The present study was aimed to compare the acceptances of LA and desire to experience NVD without LA among the expectant mothers of different parity and education level in an Indian island.

Methods

After the approval from the Institute Ethical Committee and Research Board, the present study was conducted in a tertiary care hospital associated with a teaching institute of India. This study was designed as a questionnaire-based, cross-sectional, comparative study. Pregnant women of any parity attending the antenatal clinic for checkups during January 2017 to May 2017 were approached, and the nature of the study was explained. Consented women were enrolled for the study. The study was designed as a case-control study based on parity. Women were divided into nulliparous, primiparous, and multiparous (parity 2 or more); nulliparous served as control. Based on the previous study findings (desire for NVD without LA among nulliparous and multiparous 64 and 40%, respectively),^[5] the sample size for the present study was calculated for two-sided confidence level ($1 - \alpha$) of 95% and power of 80%. Online open source software www.openepi.com was used which gave a sample of 70 in each group. Participants were enrolled until the last group got 70 women. Data were collected using a previously used questionnaire tool containing questions on sociodemographic variables, acceptance/nonacceptance of LA, reasons for nonacceptance, and desire for NVD without LA. The questionnaire was handed over to the patients and requested to complete it. The study investigators were available to assist the participants to clarify any doubts that arose or to translate (in Hindi and Bengali only) while completing the questionnaire. Patients who attended antenatal clinic for termination of pregnancy, in labor pain, and legally protected special tribal group of people were excluded. Patient not understanding either of English, Hindi, or Bengali were also excluded. Participants were also subgrouped into different groups (i.e., illiterate, primary educated, high school, higher secondary, and graduate or above) based on school education level and illiterates were taken as control to assess the effect of school education on acceptance of LA. Data were expressed in

absolute number and percentage scale. Measures of central tendencies and comparison were done using GraphPad InStat software (GraphPad Prism Software Inc., La Zolla, CA, USA). A $P < 0.05$ was considered statistically significant.

Results

A total of 400 antenatal women with median 26 years (range 16–44) of age and median gestation of 32 weeks (range 7–43 weeks) were recruited. Nearly half (49%) of the expectant mothers were between 26 and 35 years of age. Nulliparous women were the highest, i.e., 178 (44.5%), followed by primiparous and multiparous (152 [38%] and 70 [17.5%], respectively). Two hundred and eighty-nine (97.25%) were literate with at least primary level school education. The sociodemographic and obstetric parameters of the entire cohort are presented in Table 1.

Table 1: Sociodemographic and obstetrical variables of entire study participants

Characteristics	n (%)
Age (year), mean±SD	26.73±5.16
Age groups (year)	
16-25	178 (44.50)
26-35	196 (49.00)
36-45	26 (6.50)
Weight (kg), mean±SD	58.28±10.94
Gravida mean/IQR (q3-q1)	2/3-1
Primigravida	157 (39.25)
Multigravida	243 (60.75)
Parity mean/IQR (q3-q1)	1/1-0
Nulliparous	178 (44.50)
Primiparous	152 (38.00)
Multiparous	70 (17.50)
Gestation age (weeks), mean±SD	29.82±7.99
First trimester	18 (4.50)
Second trimester	94 (23.50)
Third trimester	286 (71.50)
Postdated	2 (0.50)
History of previous hospital delivery	222 (55.50)
History of previous LSCS	31 (7.75)
Residence	
Rural	278 (69.50)
Urban	122 (30.50)
Religion	
Hinduism	326 (81.50)
Islam	39 (9.75)
Christianity	35 (8.75)
Education	
Illiterate	11 (2.75)
Up to primary	79 (19.75)
Up to high school	116 (29.00)
Up to higher secondary	117 (29.25)
Graduation and above	77 (19.25)

SD: Standard deviation; IQR: Interquartile range; LSCS: Lower segment cesarean section

Mean age was incrementally higher with increased parity. Multiparous women were having significantly higher gestational age at the point of presentation to the antenatal clinic and interview as compared to nulliparous. Multiparous women were significantly less educated and mostly resided in rural areas [Table 2].

Only 9 (12.86%) multiparous participants and 15.79% primiparous wanted LA in their forthcoming delivery as compared to 11.24% of nulliparous; the differences were not statistically significant ($P = 0.82$ and $P = 0.25$, respectively). The most common reason for not accepting LA was different for different parity and is presented in Table 3.

The desire to experience NVD without LA decreased with increasing parity and was significantly less than nulliparous [Table 4]. However, when compared primiparous and multiparous, the difference was not found to be statistically significant (relative risk 0.72, 95% confidence interval 0.37–1.38; $P = 0.344$). Even the nonacceptance of LA in their forthcoming delivery as well as desire to experience NVD

without LA was statistically insignificant among literates and illiterates [Table 5].

Discussion

Effective analgesia during labor pain may contribute to better outcomes in high-risk expectant mothers.^[7] Moreover, the labor pain is regarded as very severe and excruciating by nearly all mothers.^[5] The duration of pain is also longer, and most importantly, these mothers are mostly in hospital under the supervision of a physician. Nontreatment of such pain is inhumane in modern day health practice. However, studies show that the acceptance of LA for NVD is very poor, especially in developing countries.^[5,6,8] Many parturients even think that the labor pain is natural and inevitable.

In the present study, only 13.25% wanted to undergo NVD with LA. Interestingly, 85% of the women who had delivered before were again ready to bear it for some reasons. However, previous labor pain did change their reasoning for their nonacceptance of LA for NVD. The most common reason for

Table 2: Comparison of sociodemographic and obstetrical variables of primiparous and multiparous with nulliparous women tested using unpaired *t* and Fishers exact test

Parameters	<i>P</i>	Primipara	Nullipara	Multipara	<i>P</i>
Age (year), mean±SD	<0.0001	27.12±4.21	24.28±4.43	29.42±4.86	<0.0001
Gravida, mean±SD	<0.0001	2.26±0.55	1.14±0.39	2.93±1.05	<0.0001
Gestation (week), mean±SD	0.615	29.55±8.46	29.09±8.02	31.51±6.94	0.004
Education level, <i>n</i> (%)					
Illiterate	0.379	1 (0.66)	4 (2.25)	6 (8.57)	0.032
Primary	0.045	30 (19.74)	20 (11.23)	29 (41.43)	<0.0001
High school	0.198	45 (29.60)	65 (36.52)	6 (8.57)	<0.0001
Higher secondary	0.0004	57 (37.50)	35 (19.66)	25 (35.72)	0.012
Graduate level	0.0001	19 (12.50)	54 (30.34)	4 (5.71)	<0.0001
Residence, <i>n</i> (%)					
Urban	0.204	47 (30.92)	67 (37.64)	8 (11.43)	<0.0001
Rural	0.204	105 (69.08)	111 (62.36)	62 (88.57)	<0.0001
Religion, <i>n</i> (%)					
Hinduism	1.000	127 (83.55)	148 (83.15)	51 (72.86)	0.077
Islam	1.000	13 (8.55)	16 (8.99)	10 (14.28)	0.250
Christian	1.000	12 (7.9)	14 (7.86)	9 (12.86)	0.230

SD: Standard deviation

Table 3: Reasons for not accepting labor analgesia in forthcoming delivery among women of different parity presented in absolute number and percentage scale

Reasons cited for nonacceptance of LA	Parity of the women (participants)			
	Nulliparous (<i>n</i> =158)	Primiparous (<i>n</i> =128)	Multiparous (<i>n</i> =61)	All parity (<i>n</i> =347)
To experience natural birth	97 (61.39)	29 (22.66)	10 (16.39)	136 (39.19)
Harmful to baby	25 (15.82)	35 (27.34)	20 (32.79)	80 (23.05)
Against the will of god	15 (9.49)	19 (14.84)	16 (26.23)	50 (14.41)
Refusal by family	9 (5.70)	11 (8.59)	7 (11.48)	27 (7.78)
Methods do not work	10 (6.33)	15 (11.72)	5 (8.19)	30 (8.65)
No response	2 (1.27)	19 (14.85)	3 (4.92)	24 (6.92)

n: Total number; LA: Labor analgesia

nulliparous women was the desire to experience NVD with pain, but for primiparous and multiparous, it was the belief that LA is harmful to the baby. This indicates that primiparous and multiparous women are ready to suffer again because of lack of knowledge and unsubstantiated fears about LA. Previous study findings do indicate that the knowledge and awareness of LA are very poor among the expectant mothers of developing countries.^[5,9,10]

There is no doubt that education increases knowledge and awareness and we usually extrapolate this in nearly all aspects. It is even logical as educated peoples are more likely to be exposed to media and understand it. Previous studies on LA also have documented this.^[10-12] Surprisingly, the present study not only failed to show difference for acceptance of LA across different parity, but also for the desire of NVD without LA among literates with illiterates. A previous study in Indian women has shown similar findings that parity does not correlate with acceptance of LA, but the same study also showed significant correlation with the level of education.^[9] These results indicate that the acceptance of

LA is multifactorial and approach to this issue should also be diverse.

Perception of labor pain and its management is diverse among culturally diverse women.^[13] Although not documented well, there is an acceptable notion across the various cultural divides that women must be prepared to endure the labor pain. Inability to tolerate labor pain is considered as a sign of emotional weakness.^[14] A study showed that 57% of women declined epidural analgesia for labor citing that “women should cope with labor pain.” The same study also showed that 36% women declined it because family/friends advised against it.^[15] A hospital-based survey in Hong Kong on obstetric analgesia services also attributed low acceptance of LA to possible cultural factors.^[16] The belief that the LA is against the will of God and refusal by family member indicates that cultural factors were well prevalent in the present cohort too. The very high rate of nonacceptance of LA and desire to experience NVD was probably also influenced by the sociocultural notion that the real womanhood is the ability to pass through the labor and deliver vaginally.

Table 4: Comparison of denial for labor analgesia and wish for experiencing normal vaginal delivery without labor analgesia with regard to different parity analyzed using Fishers exact test

Comparison for (n of respective category)	n (%)	RR (95% CI)	P
Do not want LA			
Nulliparous (among n=178)	158 (88.76)	Reference	Reference
Primiparous (among n=152)	128 (84.21)	0.94 (0.87-1.03)	0.256
Multiparous (among n=70)	61 (87.14)	0.98 (0.88-1.08)	0.826
Want to experience NVD without LA			
Nulliparous (among n=158)	97 (61.39)	Reference	Reference
Primiparous (among n=128)	29 (22.66)	0.36 (0.26-0.56)	<0.0001
Multiparous (among n=61)	10 (16.39)	0.26 (0.14-0.47)	<0.0001

NVD: Normal vaginal delivery; n: Total number; RR: Relative risk; CI: Confidence interval; LA: Labor analgesia

Although the study was designed to have adequate power, it is likely to be under powered for education based classes. It is also a questionnaire-based, single-center study conducted in a specific geographic region. Still, the present study gives an important message that mere bad experience with the labor may not increase LA acceptance. Healthcare providers have to step forward to increase the knowledge and awareness about the benefit of LA and against the myths and beliefs in the community.

Conclusion

More than 80% parturients of any parity do not want LA for some reason. Increased parity significantly reduces the desire

Table 5: Comparison of denial for labor analgesia and wish for experiencing normal vaginal delivery without labor analgesia with regard to different school education level analyzed using Fishers exact test

Comparison for (n of respective category)	n (%)	RR (95% CI)	P
Do not want LA			
Illiterate (among n=11)	9 (81.82)	Reference	Reference
Primary (among n=79)	71 (89.87)	1.09 (0.82-1.46)	0.352
High school (among n=116)	102 (87.93)	1.07 (0.80-1.43)	0.629
Higher secondary (among n=117)	104 (88.89)	1.08 (0.81-1.44)	0.617
Graduate and above (among n=77)	62 (80.52)	0.98 (0.72-1.32)	1.000
Want to experience NVD without LA			
Illiterate (among n=9)	3 (33.33)	Reference	Reference
Primary (among n=71)	20 (28.17)	0.84 (0.31-2.28)	0.711
High school (among n=102)	49 (48.04)	1.44 (0.55-3.71)	0.497
Higher secondary (among n=104)	30 (28.85)	0.86 (0.32-2.28)	0.719
Graduate and above (among n=62)	34 (54.84)	1.64 (0.63-4.26)	0.295

NVD: Normal vaginal delivery; n: Total number; RR: Relative risk; CI: Confidence interval; LA: Labor analgesia

to experience natural NVD, but the overall acceptance of LA was not different than nulliparous. School education failed to positively correlate with LA acceptance and desire to NVD. Ignorance, myths, and beliefs are still major contributors for the nonacceptance of LA.

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Conflicts of interest

There are no conflicts of interest.

References

- Larson MD. History of anesthesia. In: Miller RD, Pardo MC Jr., editors. *Basics of Anesthesia*. 6th ed. Philadelphia: Elsevier; 2011. p. 5-6.
- Connor H, Connor T. Did the use of chloroform by Queen Victoria influence its acceptance in obstetric practice? *Anaesthesia* 1996;51:955-7.
- Karn S, Yu H, Karna S, Chen L, Qiao D. Women's awareness and attitudes towards labor analgesia influencing practice between developed and developing countries. *Adv Reprod Sci* 2016;4:46-52.
- Landau R, Ciliberto C. Modern labor analgesia. *Pain Clin Updates* 2011;19:1-5. Available from: <http://www.iasp-pain.org/PublicationsNews/NewsletterIssue.aspx?ItemNumber=2077>. [Last accessed on 2017 May 05].
- Prakash A, Yadav A, Karim HM, Sahoo SK, Jena P, Aman K. Knowledge, awareness and acceptance of labor analgesia among antenatal women in a remote Island: A questionnaire based study. *Br J Med Med Res* 2017;21:1-7.
- Naithani U, Bharwal P, Chauhan SS, Kumar D, Gupta S, Kirti. Knowledge, attitude and acceptance of antenatal women toward labor analgesia and caesarean section in a medical college hospital in India. *J Obstet Anaesth Crit Care* 2011;1:13-20.
- Doshi HU, Tralika P, Gupta AG, Akalkotkar A. Epidural analgesia in high risk patients during labor. *JK Sci* 2009;11:130-2.
- Oladokun A, Eyelade O, Morhason-Bello I, Fadare O, Akinyemi J, Adedokun B. Awareness and desirability of labor epidural analgesia: A survey of Nigerian women. *Int J Obstet Anesth* 2009;18:38-42.
- Shidhaye RV, Galande MV, Bangal VB, Joshi SS, Shidhaye UR. Awareness and attitude towards labour analgesia of Indian pregnant women. *Anaesth Pain Intensive Care* 2012;16:131-6.
- Okojie NQ, Isah EC. Perception of epidural analgesia for labour among pregnant women in a Nigerian tertiary hospital setting. *J West Afr Coll Surg* 2014;4:142-62.
- Ekweani JC, Avidime S. The awareness and desirability of pain relief in labour among pregnant women in Zaria. *Port Harcourt Med J* 2016;10:115-8.
- Hasan MS, Alsaadi ZA, Abbas MA, Algoraby JM. Awareness and attitude of pregnant women towards labor analgesia in Babil Province. *Med J Babylon* 2016;13:95-104.
- Callister LC, Khalaf I, Semenic S, Karchner R, Vehvilainen-Julkunen K. The pain of childbirth: Perceptions of culturally diverse women. *Pain Manag Nurs* 2003;4:145-54.
- Ampofo EA, Caine V. A narrative inquiry into women's perception and experience of labour pain: A study in the western region of Ghana. *Int J Afr Nurs Sci* 2015;3:86-93.
- Orejuela FJ, Garcia T, Green C, Kilpatrick C, Guzman S, Blackwell S. Exploring factors influencing patient request for epidural analgesia on admission to labor and delivery in a predominantly Latino population. *J Immigr Minor Health* 2012;14:287-91.
- Lee BB, Chen PP, Ngan Kee WD. Status of obstetric epidural analgesia services in Hong Kong public hospitals: Postal questionnaire survey. *Hong Kong Med J* 2003;9:407-14.