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ORIGINAL RESEARCH

Assessment of the influence of labour epidural analgesia on the experience of childbirth in pregnant women

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Abstract

Background: The state of the newborn, the environment of care from the family and the hospital, antenatal and intranatal problems, and maternal happiness with childbirth are some of the complicated elements that affect this complex metric. The present study was conducted to assess the influence of labour epidural analgesia (LEA) on the experience of childbirth in pregnant women.

Materials & Methods:68 singleton pregnancy were divided into 2 groups of 34 each. Group I opted for labour epidural analgesia (LEA) and group II did not opt for labour epidural analgesia (LEA). Maternal expectations for delivery and their views of the actual experience were measured using the WIJMA Delivery Expectation and Experience (W-DEQ) questionnaire.

Results: In group I and group II, mean education of woman (years) was 5.4 and 4.1, year of marriage was 3.7 and 4.8, nulliparous was 75% and 47%, hypertensive disorders in pregnancy were 7.9% and 6.3%, gestational diabetes was 18% and 12.5%, bad obstetric history was 1.4% and 2.6%, fetal growth restriction was 0.84% and 2.1%, assisted vaginal delivery was 21% and 3.7% and cesarean section was seen in 18.2% and 17.5% respectively. The difference was significant (P< 0.05). Pre-test score and post-test score, how labour and delivery turned out was 5.2 and 4.8 in group I and group II was 5.1 and 4.8, General feelings in group I was 40.6 and 40.4 and in group II was 40.3 and 40.5, feelings during labour in group I was 15.5 and 15.4 and in group II was 14.8 and 15.2, intensity of labour in group I was 7.7 and 7.01 and in group II was 7.01 and 7.3, feelings during moment of childbirth in group I was 9.8 and 10.7 and in group II was 9.6 and 10.6, fantasies of injury to child in group I was 5.2 and 5.7and in group II was 5.4 and 5.2. Total score in group I was 84.0 and 84.01 and in group II was 82.2 and 83.6 respectively. The difference was significant (P< 0.05).

Conclusion: The substantial pain reduction that LEA offers is only one aspect of the complex dynamic that determines how satisfied mothers are with the delivery process.

Keywords: Childbirth, Epidural analgesia, Pregnant women

Introduction

The state of the newborn, the environment of care from the family and the hospital, antenatal and intranatal problems, and maternal happiness with childbirth are some of the complicated elements that affect this complex metric.[1] The mother's expectations for the delivery experience are a crucial factor to take into account, as unfulfilled expectations frequently result in a condition of decreased contentment.[2] The dread, tension, and anxiety that come

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with expecting to be in pain throughout labor and delivery can even cause extreme emotional states that can negatively affect the whole childbirth experience.[3]

Several techniques are used in modern obstetrics to relieve pregnant women's pain during labor and delivery. Labor epidural analgesia (LEA) is a pain management technique that is becoming more widely accepted.[4] Several studies have demonstrated that using LEA can significantly reduce discomfort. Despite the potential for unfavorable outcomes such as extended labor and assisted vaginal deliveries, new research indicates that LEA does not raise the likelihood of cesarean sections.[5,6]

Aim and objectives

The present study was conducted to assess the influence of labour epidural analgesia (LEA) on the experience of childbirth in pregnant women.

Materials & Methods

The presentprospectiveinterventional study was conducted on 68 singleton pregnancy of at least 34 weeks of gestation, with either spontaneous or induced labor. The present study is conducted those who met the specified criteria for inclusion and exclusion at the Department of Anaesthesia, Major S.D. Singh Medical College& Hospital, Farrukhabad, Uttar Pradesh, Indiafor a period of ten months (February 2014– October 2014). All were informed regarding the study and their written consent was obtained. The Institutional Ethics Committee gave the study its approval.

Data such as name, age, etc. was recorded.

Inclusion criteria

- Pregnant females who gave written informed consent
- pregnant women who had visited the study institute's antenatal clinics with a singleton pregnancy that was at least 34 weeks gestation, either spontaneously or through induction of labor, and with or without associated medical co-morbidities.
- Available for follow up.

Exclusion criteria

- Pregnant females who do not gave written informed consent
- Multiple pregnant women, women admitted for planned elective C-sections, including those performed on maternal demand, emergency C-sections, women for whom LEA could not be started due to known drug hypersensitivity or allergy, or other contraindications, women who had failed epidurals or wet taps, and women who were found to resist the tap during the procedure.
- Those unable to attend follow-up.

Subjects were divided into 2 groups of 34 each. Group I opted for labor epidural analgesia (LEA), and group II did not opt for labor epidural analgesia (LEA). Labor epidural analgesia was initiated when the cervix was 2 to 3 cm dilated and the woman was determined to have true labor pains. A combination of intermittent boluses and patient-controlled epidural analgesia infusions (PCEA) was used to provide the LEA. Pain was measured using the Visual Analogue Pain Score (VAPS), which was masking the mode of delivery and measuring pain on a scale from 0 to 10. Maternal expectations for delivery and their views of the actual experience were measured using the WIJMA Delivery Expectation and Experience (W-DEQ) questionnaire.

Statistical Analysis

The data thus obtained were subjected to statistical analysis. The data were analysed using SPSS and Microsoft Excel. After standardizing the direction of responses for each item (for example, all scores of 5 indicate poorer outcomes and all scores of 0 indicate good outcomes) in accordance with the questionnaire protocol, the score for each woman was calculated using a simple summation of all the responses. The Shapiro-Wilk test for normalcy was used to evaluate the distribution of scores. A Wilcoxon-paired signed rank test was used to compare

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the overall scores and domain scores between the two groups. After controlling for variables that were determined to be significant in the bivariate analysis and differences in the baseline characteristics of the two groups, a generalized linear repeated measures model was used to compare the scores of the two groups. A P value < 0.05 was considered significant.

Results

Table I: Assessment of baseline parameters

Parameters	Group I	Group II	P value
Education of woman (years)	5.4	4.1	0.94
Marriage (years)	3.7	4.8	0.05
Nulliparous	75%	47%	0.01
Hypertensive disorders in pregnancy	7.9%	6.3%	0.81
Gestational diabetes	18%	12.5%	0.05
Bad obstetric history	1.4%	2.6%	0.03
Fetal growth restriction	0.84%	2.1%	0.05
Assisted vaginal delivery	21%	3.7%	0.01
Cesarean section	18.2%	17.5%	0.72

Table II shows that in group Iand group II, mean education of woman (years) was 5.4 and 4.1, year of marriage was 3.7 and 4.8, nulliparous was 75% and 47%, hypertensive disorders in pregnancy were 7.9% and 6.3%, gestational diabetes was 18% and 12.5%, bad obstetric history was 1.4% and 2.6%, fetal growth restriction was 0.84% and 2.1%, assisted vaginal delivery was 21% and 3.7% and cesarean section was seen in 18.2% and 17.5% respectively. The difference was significant (P< 0.05).

Table II: Domain scores with the WDEQ questionnaire stratified by labour epidural analgesia

Domain	Groups	Pre-test score	Post-test score	P value
How labour and delivery turned out	Group I	5.2	4.8	0.56
	Group II	5.1	4.8	0.05
General feelings	Group I	40.6	40.4	0.07
	Group II	40.3	40.5	0.92
Feelings during labour	Group I	15.5	15.4	0.85
	Group II	14.8	15.2	0.63
Intensity of labour	Group I	7.7	7.01	0.05
	Group II	7.01	7.3	0.81
Feelings during moment of childbirth	Group I	9.8	10.7	0.04
	Group II	9.6	10.6	0.05
Fantasies of injury to child	Group I	5.2	5.7	0.97
	Group II	5.4	5.2	0.93
Total score	Group I	84.0	84.01	0.99
	Group II	82.2	83.6	0.03

Table II, figure 1, shows that pre-test score and post-test score, how labour and delivery turned out was 5.2 and 4.8 in group I and group II was 5.1 and 4.8, General feelings in group I was 40.6 and 40.4 and in group II was 40.3 and 40.5, feelings during labour in group I was 15.5 and 15.4 and in group II was 14.8 and 15.2, intensity of labour in group I was 7.7 and 7.01 and in group II was 7.01 and 7.3, feelings during moment of childbirth in group Iwas 9.8and 10.7 and in group II was 9.6 and 10.6, fantasies of injury to child in group I was 5.2 and 5.7and in group II was 5.4 and 5.2. Total score in group I was 84.0and 84.01 and in group II was 82.2 and 83.6 respectively.

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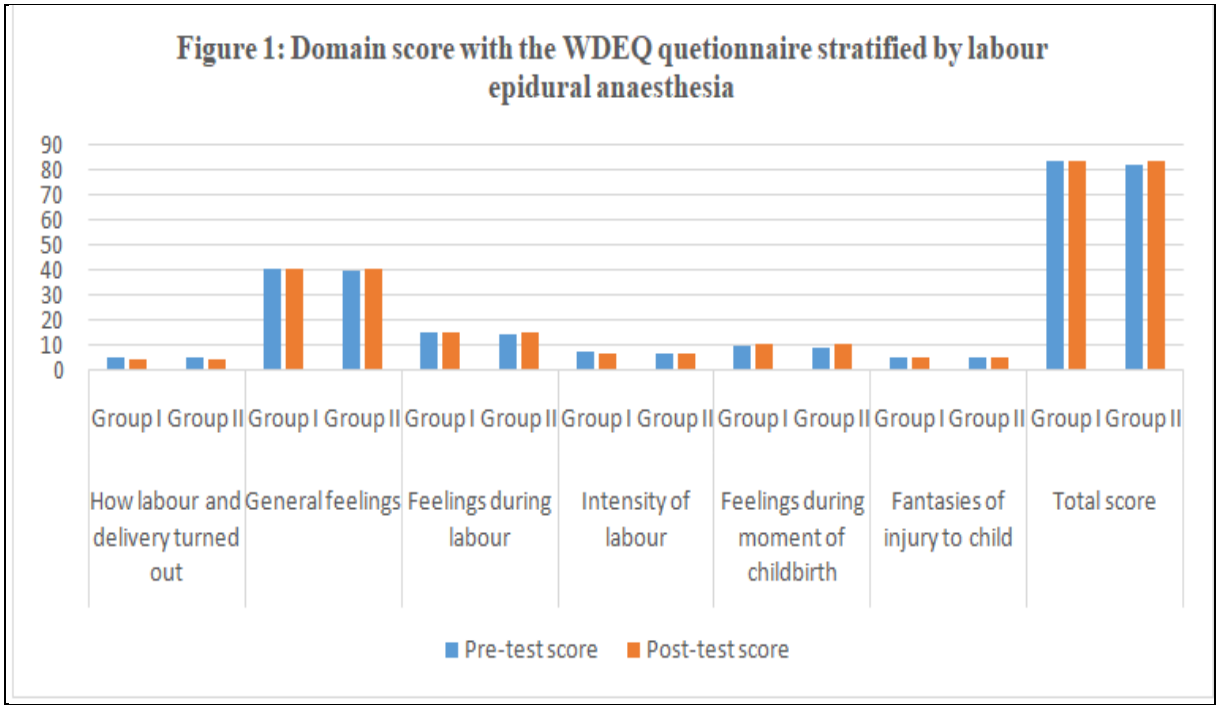

Discussion

Labour epidural analgesia, commonly referred to as an epidural, is a widely used method of pain relief during childbirth.[7] Its impact on childbirth expectations can vary depending on the individual's knowledge, experiences, and expectations surrounding labour. Many expect that an epidural will provide significant pain relief, which it typically does.[8] However, some may experience incomplete pain relief or side effects, which can differ from their initial expectations.[9] If the pain management doesn't meet expectations, it can lead to disappointment or stress, affecting the overall birth experience.[10]

The present study was conducted to assess the influence of labour epidural analgesia (LEA) on the experience of childbirth in pregnant women.

We found that in group I and group II, mean education of woman (years) was 5.4 and 4.1, year of marriage was 3.7 and 4.8, nulliparous was 75% and 47%, hypertensive disorders in pregnancy were 7.9% and 6.3%, gestational diabetes was 18% and 12.5%, bad obstetric history was 1.4% and 2.6%, fetal growth restriction was 0.84% and 2.1%, assisted vaginal delivery was 21% and 3.7% and cesarean section was seen in 18.2% and 17.5% respectively. Bhat et al.[11] determined the influence of labour epidural analgesia (LEA) on the experience of childbirth in pregnant women. Total and domain scores were compared between the two groups using non-parametric tests and a generalized linear repeated measures model after adjusting for factors that were found significant in the bivariate model. The study included 235 pregnant women who opted for LEA and 219 pregnant women who opted against LEA. Overall, 37 (15.74%) of woman with LEA and 30 (13.70%) of women without LEA had a worse than expected experience of childbirth. Significant pain relief ($p<0.001$) was provided with LEA; however, the post-delivery scores did not differ significantly between the two groups ($F=0.90$, $p=0.34$) in a generalized linear repeated measures mode.

We found that pre-test score and post-test score, how labour and delivery turned out was 5.2 and 4.8 in group I and group II was 5.1 and 4.8, General feelings in group I was 40.6 and 40.4 and in group II was 40.3 and 40.5, feelings during labour in group I was 15.5 and 15.4 and in group II was 14.8 and 15.2, intensity of labour in group I was 7.7 and 7.01 and in group II was 7.01 and 7.3, feelings during moment of childbirth in group I was 9.8 and 10.7 and in group II was 9.6 and 10.6, fantasies of injury to child in group I was 5.2 and 5.7and in group

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II was 5.4 and 5.2. Total score in group I was 84.0 and 84.01 and in group II was 82.2 and 83.6 respectively. A meta-analysis of several studies concluded that instrumental delivery may be increased up to two times in women with LEA but is dependent on inter-physician and inter-institute variations in obstetric practice. However, the increased incidence of assisted deliveries or episiotomy did not translate to a worse than expected experience in this population.Doering et al.[12] reported that pain does reduce the quality of the birth experience, but even so, remaining in control is more important to a pleasurable experience.

Limitation of the study

The shortcoming of the study is small sample size.

Conclusion

Authors found that the substantial pain reduction that labour epidural analgesia (LEA) offers is only one aspect of the complex dynamic that determines how satisfied mothers were with the delivery process.Pain relief is just one aspect of the complex dynamic that helps bring mother happiness with childbirth. Meeting the pre-delivery or antenatal expectations of childbirth influences each woman's overall experience during birth.

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