

# Pain perception among parturients at a University Teaching Hospital, South-Western Nigeria

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## ABSTRACT

**Introduction:** Labour pain is a universal experience. Relief of labour pains and companionship in labour are important aspects of quality of care in labour. **Objectives:** To evaluate perception of labour pains among parturients, their knowledge and awareness of pain relief during labour, the types of obstetric analgesia available and the outcome of their labour at the Ekiti State University Teaching Hospital, Ado-Ekiti. **Materials and Methods:** A cross-sectional study using questionnaire administered to pregnant women between 37 and 42 weeks gestational age in labour ward of the hospital. **Results:** The study revealed that 75.2% of the parturients experienced severe labour pains and 35.3% of them received analgesia in labour with Pentazocine injection being the only analgesic used. Only 18.3% had maximum relief of their pains. Parturients with increasing parity, higher social class and educational attainment and who had antenatal education on labour pains were associated with severe perception of labour pains with *P* values of 0.03, 0.03, 0.02 and 0.01, respectively. Parturients who were given Pentazocine injection for pains and had relief in labour had more spontaneous vaginal deliveries, *P* = 0.030 and better outcome for their babies, *P* = 0.028. Majority of the women reported that the practice of companionship and back rubbing in labour helped them to cope better with the labour process. **Conclusion:** Most women desire relief of pains of labour but the practice is still suboptimal in this centre. Efforts should be made towards developing the practice of obstetric analgesia and companionship in labour in this environment.

**Key words:** Pain, parturients, perception, South-Western Nigeria

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## INTRODUCTION

Labour pain is a universal experience among women but the perception differs between individuals and this is influenced by both physical and psychological factors. The difference in pain perception among parturients depends on factors such as pain threshold, culture, social status, parity, prenatal education, counseling, support during labour and medical intervention.<sup>1,2</sup> The practice of obstetric analgesia may have well been established in developed countries, it is still in infancy in most developing countries. In fact in some countries, the majority of the pregnant women do not even know that labour pains can be relieved.<sup>3</sup>

The benefits of pain relief in labour, however, extend far beyond mere humanitarian ones and it should be clearly

recognized that appropriate pain relief may improve the general course and success of labour.<sup>3,4</sup> As a result of increased knowledge and sophistication in most developed countries, parturients are aware of pain relief in labour and may demand and experience practically pain-free labour.<sup>5</sup> In our environment, due to the lack of resources and competing priorities, pain-free labour is not achieved in most cases.<sup>6</sup> Studies on patients' perception of the quality of care in labour have identified that pain relief, information obtained about labour and presence of support person in labour as important aspects of quality care in labour.<sup>7</sup>

Ekiti State University Teaching Hospital, Ado-Ekiti South-Western Nigeria, is an emerging teaching hospital established in 2008; hence, there is a need to study the practice of obstetric analgesia in her labour ward. The aim of this study would be to evaluate the perception of labour pains among the parturients, their knowledge and awareness of pain relief during labour, the types of obstetric analgesia available and the outcome of their labour. The outcome of this study would help to strengthen or modify the practice of obstetric analgesia in the labour ward of the hospital.

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## MATERIALS AND METHODS

The study was a cross-sectional design involving pregnant women who presented at the Labour Ward of the Ekiti State University Teaching Hospital, Ado-Ekiti and the study was carried out between January 2009 and December 2010. The Ekiti State University Teaching Hospital, Ado-Ekiti serves as a referral centre for all the specialist and general hospitals in the state. About 1800 women booked annually with an annual delivery rate of 1200. The study involved the use of structured questionnaire administered to parturients within 2 hrs of delivery. The inclusion criteria were all women with singleton pregnancy who presented in labour, whose gestational age was between 37 and 42 weeks, the cervical dilatation was at least 4 cm but not more than 7 cm and gave a verbal consent to participate in the study. The exclusion criteria were all women whose gestational age was less 37 weeks, those with multiple pregnancy, those who were scheduled for elective Caesarean section and those who did not agree to participate in the study.

The data was collected using structured questionnaires that were administered to consecutive consenting parturients by members of the study team. The research instrument has three sections: The first section obtained information about socio-demographic characteristics of the parturients - age, parity, occupation of parturients and their husbands, tribe and religion; the second section elicited information about labour history and its outcome - gestational age at presentation in labour, onset of labour, duration of labour, outcome of labour, baby's outcome, APGAR score and birth weight of baby while the third section inquired information about pain perception in labour - pain perception was assessed using a three-point verbal rating scale of mild, moderate and severe, use of analgesia in labour, type of analgesia given, degree of pain relief obtained assessed on a four-point verbal rating scale of no, minimal, moderate and maximum relief, back rubbing and companionship in labour. The first and third sections were obtained directly from the parturients while the second section was obtained from the labour record in their case files. The parturients were interviewed within two hours of delivery. The social class of each parturient was determined by adding the scores from the husband's occupation and woman's level of education as described by Olusanya *et al.*<sup>8</sup>

The data collected was entered into and analyzed using the Statistical Package for Social Sciences (SPSS) version 15. The results were presented using frequency tables and percentages and summarized using relevant descriptive statistics such as means. Association between discrete variables was test using Chi-square. The level of statistical significance was set at  $P < 0.05$ .

## RESULTS

A total of 1012 parturients participated in the study having gained their verbal consent.

Table 1 showed that the age of the respondents ranged between 17 and 40 years with a mean of  $26.50 \pm 4.58$ . Majority of the respondents were Yoruba, Christians with tertiary education and belonged to the upper social class.

Table 2 showed that 936 (92.5%) of the parturients had spontaneous labour while 76 (7.5%) of them had induction of labour. Majority (75.2%) of the women described their labour pains as severe in nature and 13 (1.3%) of them described it as being mild. Three hundred and fifty-seven (35.3%) of the parturients were given analgesia in labour and Pentazocine injection was the form of analgesic given to all of them. Majority 159 (44.5%) of those that were given analgesic in labour had mild relief of their labour pains while only 65 (18.3%) obtained maximum relief of their pains.

**Table 1: Sociodemographic characteristics of the respondents**

Characteristics	Frequency	Percentage
Parity of the women		
Primigravidae	270	26.7
Multigravidae	742	73.3
Total	1012	100.0
Religion		
Christianity	769	76.0
Muslim	235	23.2
Traditional	8	0.8
Total	1012	100.0
Occupation of the women		
Unemployed	202	19.9
Petty trader	321	31.9
Artisans	82	8.1
Civil servant	403	40.2
Total	1012	100.0
Educational status		
Primary	70	6.9
Secondary	308	30.5
Tertiary	634	62.6
Total	1012	100.0
Ethnicity		
Yoruba	798	78.9
Igbo	132	13.0
Hausa	82	8.1
Total	1012	100.0
Social status		
Class I	98	9.7
Class II	358	35.4
Class III	277	27.4
Class IV	238	23.5
Class V	41	4.1
Total	1012	100.0

Table 3 showed that 611 (93.3%) of the respondents that were not given analgesia would have wanted the relief of the pains while 44 (6.7%) of them would not want to receive analgesia in labour. The reasons given by those who would have wanted relief of their labour pains were that this would have helped to tolerate the labour experience better and also made them to co-operate with labour room staffs. Out of 44 parturients who did want analgesia given in labour, 19 (43.2%) of them want to experience the pains of labour believing that it is natural for a woman to have this, 13 (29.5%) believed that the analgesia would slow down the progress of their labour while 6 (13.6%) of them thought it may affect their baby. Majority, 609 of the parturients had their back rubbed by an attendant or relative during labour while 403 of them did not have their back rubbed during labour. Out of the 609 women whose back were rubbed in labour, 426 (69.9%) of them reported that this decreased their labour pains while 183 (30.1%) reported that this practice was not helpful in relieving the pains. Four hundred and forty-two (43.6%) of the respondents had one form of companion or the other during labour while 570 (56.4%) of them did not have any form of companion during labour. For those who had companion, majority 81% of the companion were the labour ward staff while the rest were their relatives. Majority, 79%, of those who had companions reported that this helped them to cope better the labour pains and the whole labour process while the rest 21% of them reported no benefit. Majority 75.1% of the respondents were taught about pain relief in labour during their antenatal clinic visits while 24.9% of them were not taught.

Table 4 showed that the degree of pain relief obtained from the analgesic given during labour statistically influenced the outcome of labour and that of the baby for each parturient with *P* value of 0.030 and 0.028, respectively, but not statistically associated with the duration of labour with the *P* value of 0.809.

Table 5 showed that the verbal pain score described by the respondents was statistically influenced by the antenatal education received by the respondents, higher parity, upper social status and higher educational attainment of the respondents with *P* value of 0.01, 0.03, 0.03 and 0.02, respectively, but not by their tribe, religion and the type of labour with *P* value of 0.21, 0.08 and 0.30, respectively. The outcome of labour and of the baby were also not statistically influenced by the pain score of the respondents with *P* = 0.31 and 0.11, respectively.

## DISCUSSION

Higher level of educational attainment was found out as significant predictor of pain perception among parturients because this exposes them to educational

**Table 2: Obstetric data and labour summary of respondents**

Obstetric data	Mean±S.D	Range
Parity	1.33±1.104	0-4
Gestational age at presentation	39.40±1.424	37-42
Duration of labour	9.31±2.35	4-14
Birth weight of baby	3.102±0.357	2-4
Apgar score at 1 minute	7.36±1.44	0-10
Apgar score at 5 minute	9.61±1.34	0-10
Onset of labour	Frequency (n=1012)	Percentages
Spontaneous	936	92.5
Induced	76	7.5
Outcome of labour		
Spontaneous vaginal delivery	850	84.0
Caesarean section	162	16.0
Outcome of the baby		
Alive	999	98.7
Dead	13	1.3

**Table 3: Pain perception and factors relating to it among respondents**

Characteristics	Frequency	Percentages
Pain score (verbal)	n=1012	
Mild	13	1.3
Moderate	238	23.5
Severe	761	75.2
Received analgesic during labour	n=1012	
Yes	357	35.3
No	665	64.7
Degree of pain relief obtained	n=357	
None	28	7.8
Mild	159	44.5
Moderate	105	29.4
Maximum	65	18.3
Did not receive analgesic but would have liked to	n=655	
Yes	611	93.3
No	44	6.7
Antenatal education about pain relief in labour	n=1012	
Yes	760	75.1
No	252	24.9
Back rubbed in labour	n=1012	
Yes	609	60.2
No	403	39.8
Companionship in labour	n=1012	
Yes	442	43.6
No	570	56.4

materials that change their orientation that labour pain is a myth and with improved knowledge about the availability of modern methods of pain relief in labour. This is similarly reported by Olayemi *et al.*<sup>6</sup> and Onah

**Table 4: Pain relief among respondents and the outcome of labour**

Characteristics	Degree of pain relief in labour				X <sup>2</sup>	df	P value
	None and minimal		Moderate and maximum				
Duration of labour							
Less than 10 hours	92	52.9	82	47.1	0.424	2	0.809
10 hours and above	93	50.8	90	49.2			
Outcome of labour					11.927	2	0.030*
Spontaneous vaginal delivery	143	47.8	156	52.2			
Caesarean section	42	72.4	16	27.6			
Outcome of baby					7.178	2	0.028*
Alive	185	51.8	172	48.2			
Dead	0	0	0	0			

\* Statistically significant

**Table 5: Pain score among respondents and factors relating to it**

Characteristics	Pain score (verbal)						X <sup>2</sup>	df	P value
	Mild		Moderate		Severe				
Educational status of respondent									
Primary	0	0	13	18.6	57	83.4	11.481	4	0.022*
Secondary	0	0	65	21.1	243	78.9			
Tertiary	13	2.1	160	25.2	461	72.7			
Religion of respondents									
Christianity	11	1.4	191	24.8	567	73.7	8.146	4	0.086
Muslim	2	0.9	43	18.3	190	80.8			
Traditional	0	0	4	50	4	50			
Tribe of respondents									
Yoruba	13	1.6	187	23.5	598	74.9	5.808	4	0.214
Igbo	0	0	36	27.3	96	72.7			
Hausa	0	0	15	18.3	67	81.7			
Social status of respondents									
Social class I-III	13	1.8	179	24.5	538	73.7	6.925	2	0.031*
Social class IV-V	0	0	59	20.9	223	79.1			
Antenatal education on pain relief									
Yes	0	0	157	20.7	603	79.3	56.792	2	0.001*
No	13	5.2	81	32.1	158	62.7			
Onset of labour									
Spontaneous	13	1.4	224	23.9	699	74.7	2.408	2	0.300
Induced	0	0	14	18.4	62	81.6			
Outcome of labour									
Spontaneous vaginal delivery	13	1.5	189	22.2	648	76.3	6.952	2	0.031*
Caesarean section	0	0	49	30.2	113	69.8			
Outcome of baby									
Alive	13	1.3	238	23.8	748	74.9	4.344	2	0.114
Dead	0	0	0	0	13	100			

\*Statistically significant

*et al.*<sup>9</sup> but differs from the report of Kuti *et al.*<sup>10</sup> that it is not influenced by parity and educational status. However, perception of labour pains did not differ significantly among parturients from the different ethnic groups in this study and similar perception of labour pains have been reported previously by studies from different ethnic

regions in Nigeria.<sup>9-11</sup> Also interestingly, parturients expressed no difference in pain perception in both spontaneous and induced labour which is in contrast to reports by Olayemi *et al.*<sup>6</sup> and Onah *et al.*<sup>9</sup> that induced and augmented labour are more associated with a higher perceived pain than spontaneous labour.

Despite the high level of awareness of pain relief in labour among the parturients having been taught in the antenatal clinic, only 35.3% of them had analgesic given in labour and Pentazocine injection was the only analgesic given. The analgesic used in this centre may be ineffective in most cases as only very few parturients had maximum relief of their pains, the outcome of labour in these parturients- majority had spontaneous vaginal deliveries- and their babies were still better. This reflects the low level of practice of obstetric analgesia in this centre despite the availability of more effective methods of pain relief but the well documented benefits of the obstetric analgesia to the mother and their babies have been demonstrated in this study.<sup>4</sup> This is similarly reported by Onah *et al.*<sup>9</sup>

Many of the parturients who were not given analgesic desired to have pain relief in labour. This desire for analgesic in labour was significantly associated with the higher educational level, social status and the antenatal education received among the parturients. Most educated women and those of upper social class live a less physically stressful life that would make them less accustomed to pains and suffering compared to the less educated women. They are also well informed about the documented advantages of pain relief in labour.<sup>6</sup> This is contrast to the less educated women who do not desire pain relief because labour pain is considered as natural and a mark of womanhood and that drugs used may affect the progress of their labour and the outcome of their babies.<sup>9,12</sup>

Parturients who had companions with them and also had their back rubbed during labour reported a decrease in their labour pains perception and that this helped them to cope better with the labour process. This was similarly reported in previous studies by Hodnet *et al.*<sup>7</sup> and Abushaika *et al.*<sup>12</sup> In places where doulas (lay women who are trained in labour support) are available, continuous labour support provided by them has been shown to consistently decrease the use of obstetric intervention.<sup>13</sup> This practice should be encouraged since companionship in labour is one of the components of the active management of labour as opposed to what obtains in most centres in Nigeria where relatives even their spouses are not allowed to stay with parturients in labour.<sup>10</sup>

This study has shown that many of the parturients described the labour process as being painful with only few having access to obstetric analgesia while majority would rather want a pain-free labour by accepting analgesics in labour. It is therefore essential that the practice of obstetric analgesia be stepped up with the introduction of parenteral opioids, epidural and inhalational analgesia into obstetric practice in our health care facilities in Nigeria.<sup>3,9</sup>

In developed countries, obstetric anaesthesiology is a well-established subspecialty that takes care of analgesic need of parturients in labour to ensure a pain-free labour but in Nigeria, the dearth of anaesthesiologists has been a major challenge facing subspecialisation among the few available even in well-established tertiary health centres and teaching hospitals. Government should encourage training of more doctors in the field of obstetric anaesthesiology to administer this in the labour wards by providing additional incentives for them.

The support of health care personnel in labour, provision of infrastructure and maternal involvement in decision making are clearly central in achieving a positive child birth experience. It is, therefore, imperative that attention is paid to this not only in this centre but in Nigeria so that our parturients would enjoy the benefits of a pain-free labour. This would give our women the dignity they deserve and feel honored when performing their God giving role and reduce adverse maternal and fetal outcomes.

Limitations to this study include the subjective assessment of labour pains and the relief obtained from analgesia by the parturients rather than by an objective method. The study was also limited by the fact that other methods of pain relief in labour are not readily available in this centre.

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