International Journal of Advanced Research in Medicine

E-ISSN: 2706-9575
P-ISSN: 2706-9567
IJARM 2025; 7(1): 34-38
www.medicinepaper.net
Received: 26-12-2024
Accepted: 29-01-2025

Dickson H John
Department of Obstetrics and Gynaecology, Rivers State University, Port Harcourt, Nigeria

Leesi Sapira-Ordu
Department of Obstetrics and Gynaecology, Rivers State University, Port Harcourt, Nigeria

Hyness Awoye-Godspower
Department of Obstetrics and Gynaecology, Rivers State University, Port Harcourt, Nigeria

Felix CC Wekere
Department of Obstetrics and Gynaecology, Rivers State University Teaching Hospital, Port Harcourt, Nigeria

Mkpe Abbey
Department of Obstetrics and Gynaecology, Rivers State University, Port Harcourt, Nigeria

Simeon C Amadi
Department of Obstetrics and Gynaecology, Rivers State University, Port Harcourt, Nigeria

Elvis T Godam
Department of Human Anatomy, Rivers State University, Port Harcourt, Nigeria

Stephenson D Lawson
Department of Medical Microbiology, Rivers State University, Port Harcourt, Nigeria

Barinua K Gbaranor.
Department of Human Physiology, Rivers State University, Port Harcourt, Nigeria

Corresponding Author:
Leesi Sapira-Ordu
Department of Obstetrics and Gynaecology, Rivers State University, Port Harcourt, Nigeria

Utilization of labour analgesia: the experience with pharmacological agents among parturients at a tertiary centre in south-south Nigeria

Dickson H John, Leesi Sapira-Ordu, Hyness Awoye-Godspower, Felix CC Wekere, Mkpe Abbey, Simeon C Amadi, Elvis T Godam, Stephenson D Lawson and Barinua K Gbaranor

DOI: https://www.doi.org/10.22271/27069567.2025.v7.i1a.609

Abstract
Background: The demand for pain relief in labour has been on the increase, due to the fact that majority of parturient perceive labour pain as being severe. In spite of this, the utilization of analgesia in labour has not been shown to be satisfactory especially in low resource settings.
Objectives: To assess the use of pharmacological method of pain management in labour among parturients at a tertiary Centre in Port Harcourt, South-South Nigeria.
Methodology: Three hundred and ninety-three (393) women who had spontaneous vaginal delivery at the Rivers State University Teaching Hospital were recruited consecutively in a descriptive cross-sectional study. The women who gave consent for the study were recruited within 24 hours of delivery. The data was collected using an interviewer administered semi-structured questionnaire and analysis was done using SPSS 20.
Results: The mean age of respondents was 30.30 years with standard deviation of 5.01 years. The mean parity was Para 1 while the mean gestational age at delivery was 38.12 weeks (SD-3.63 weeks) Most (88.3%) of the parturient rated labour pain as being severe with 80.9% of the study population desiring pain relief. Out of those who desired pain relief, only 28.9% requested for analgesia and only 18.5% of those that requested for analgesia received it. Out of the total number of respondents, only 5.9% received labour analgesia. The agents used were; pentazocine (3.8%), epidural (1.5%), tramadol (0.3%) and paracetamol (0.3%).
Conclusion: There is poor utilization of the pharmacological agents for labour analgesia among the parturients despite the need. This may be due to lack of established protocols on obstetric analgesia in most obstetric units especially in the low and medium income countries. A protocol on pain relief in labour is therefore needed in order to make the labour experience pleasant for parturients.

Keywords: Utilization, labour, pain, parturient, pharmacological, analgesia, south-south

1. Introduction
The ability of an individual to be insensible to pain without loss of consciousness is referred to as analgesia. This has been utilized globally for the purpose of a more pleasant child birth process thus called labour analgesia. It is a routine practice in most high income countries however in low income countries, the practice is low among parturients as well as care givers [1, 2]. The pain of labour is one of the most severe forms of pain undergone by women, and thus needs to be relieved, however, some cultures consider it as a natural process that should be endured [1, 3].
Analgesia in labour can be achieved through pharmacological and non-pharmacological methods. The non-pharmacological methods such as relaxation, positive reinforcement, breathing exercises, positioning, therapeutic touch/ back massage have been used widely especially by nurses and midwives with varying levels of patient satisfaction [4]. The pharmacological methods include; oral medications like paracetamol, codeine and tramadol. There are also inhalational agents as well as injectable agents [2]. Among the pharmacological agents, parenteral opioids have gained more popularity especially in the low and middle income countries despite the fact that epidural analgesia is currently the gold standard globally. A report from Southeastern Nigeria reported that only 22.1% of parturients received analgesia and 92.5% of them received pentazocine [5].

This may be due to its wide availability and low cost [6].
Despite the low utilization of analgesia in labour, studies have shown that there is relatively increased acceptability and desire for analgesia in labour and as high as 86.4% of women in the South western Nigeria desired analgesia [7]. It has been reported in another centre in Nigeria that about 85.1% of women desired analgesia in labour but only 38.9% received it [8]. It is expected that with increased desire for analgesia, many women will request for it, however values as low as 1.4% has been reported [9]. Labour pain may be associated with stress responses such as depression, hypertension, puerperal psychosis and others, therefore maternal request is sufficient justification for its administration [10].
This study was to assess the utilization of pharmacological methods of labour analgesia at the tertiary center in Southern Nigeria.

Methodology

Three hundred and ninety-three (393) within 24 hours of spontaneous vaginal delivery were recruited consecutively into a cross-sectional study conducted at the obstetric of the Rivers State University Teaching Hospital between January 2021 and December 2022. Only those who met the eligibility criteria and gave consent for the study were recruited after counselling on the activities involved in the study.
The formula, $N= (Z^2 P (1-P)/ d^2)$ [11] was used to calculate the sample size, where, N- Sample size, Z- Proportion of normal distribution corresponding to the required significance level (5%) which is 1.96, P- 0.068 (previous study conducted in Southwest Nigeria showed that 6.8% of women in labour used pharmacological analgesia in labour[7] and d- Margin of error (0.05). The minimum sample size calculated was 97.4, however a sample size of 393 was used.
The data on socio-demographic characteristics, labour characteristics and the Visual Analogue Scale (VAS) for the assessment of pain perception were obtained using an interviewer administered structured questionnaire. Some of the information on desire and utilization of analgesia and type of analgesics were recorded from the folders. The data analysis was done with SPSS version 20. Tables and charts were used for data presentation. Test of association was done with chi square and Fishers exact teats, and the level of significance was determined at $p<0.05$.

Results

Majority of the respondents were within the age groups of 25-29 years (30.8%) and 35-39 years (35.9%) with mean age of 30.3 (±5.01) years.
The respondents had mostly secondary (52.4%) and tertiary (40.5%) education. Business women constituted most (59.5%) of the study population, this was followed by civil servants (21.1%).
The Rivers upland ethnic groups (40.7%) and the Igbos (33.1%) were in majority.
Women with one to two previous deliveries (P1-P2) were in majority (72.0%) and they were mostly Christians.
All these are shown on Table 1. When tested statistically to determine the association with desire for analgesia, only educational status and occupation were significant, each at p-value of 0.008.
Majority (68.2%) of the women delivered between 36 to 40 weeks of gestation. The presence of medical condition in pregnancy had significant association with desire for analgesia in labour at p-value of 0.001.
Women who desired for pain relief in labour were 80.9% with 88.3% rating labour pain as severe. These when tested statistically were found to be significantly associated at p-value of 0.001.
Only 28.9% of those who desired analgesia requested for it. The proportion of those who requested and actually received it was 18.5%. However, 2 of those who did not desire it and 4 of those who did not request for it eventually received analgesia in labour. The overall proportion of the study population that received analgesia in labour was 5.9%. Pentazocine was mostly utilized (65% i.e. 15 out of the 23 that received analgesia in labour).
These are shown on tables 2 and 3 as well as the figures 1 and 2.
The use of oxytocic for both induction and augmentation of labour was significantly associated with desire for analgesia (p-value, 0.005). Mode of labour onset and its duration were how1ever not found to significantly affect the desire for analgesia when tested statistically.

Table 1: Socio-demographics/obstetric characteristics and request for labour analgesia among parturients at RSUTH

	Request for labour analgesia		
Variables (N = 393)	**Yes n (%)**	**No n (%)**	**Total n (%)**
Age in years			
<25 years	6 (6.8)	40 (13.1)	46 (11.7)
25 - 29 years	36 (40.9)	85 (27.9)	121 (30.8)
30 - 34 years	26 (29.5)	115 (37.7)	141 (35.9)
35 - 39 years	18 (20.5)	58 (19.0)	76 (19.3)
≥40 years	2 (2.3)	7 (2.3)	9 (2.3)
	Chi Square = 7.426; p-value = 0.115		
Educational level			
Primary	0 (0.0)	10 (3.3)	10 (2.5)
Secondary	40 (45.5)	166 (54.4)	206 (52.4)
Tertiary (Undergraduate/Graduate/Postgraduate)	47 (53.4)	112 (36.7)	159 (40.5)
Not specified	1 (1.1)	17 (5.6)	18 (4.6)
	Fisher's exact test = 11.097; p-value = 0.008*		
Employment status			
Unemployed/Housewife	8 (9.1)	37 (12.1)	45 (11.5)
Students/Youth Corp members	7 (8.0)	24 (7.9)	31 (7.9)
Public servants	30 (34.1)	53 (17.4)	83 (21.1)
Business	43 (48.9)	191 (62.6)	234 (59.5)

	Chi Square = 11.757; p-value = 0.008*		
Tribe			
Igbo	35 (39.8)	95 (31.1)	130 (33.1)
Yoruba	1 (1.1)	11 (3.6)	12 (3.1)
Hausa	1 (1.1)	5 (1.6)	6 (1.5)
Rivers Upland (Ikwerre/Ogoni/Etche/Eleme/Ahoada)	40 (45.5)	120 (39.3)	160 (40.7)
Rivers Island/Ijaw (Andoni/Kalabari/Okirika/Buguma)	6 (6.8)	22 (7.2)	28 (7.1)
Urhobo	1 (1.1)	7 (2.3)	8 (2.0)
Others	4 (4.5)	45 (14.8)	49 (12.5)
	Fisher's exact test = 9.888; p-value = 0.107		
Religion			
Christianity	88 (100.0)	298 (97.7)	386 (98.2)
Islam	0 (0.0)	7 (2.3)	7 (1.8)
	Fisher's exact p-value = 0.357		
Parity			
Para 0	13 (14.8)	30 (9.8)	43 (10.9)
Para 1 - 2	63 (71.6)	213 (69.8)	276 (72.0)
Para 3 - 4	12 (13.6)	60 (19.7)	72 (18.3)
Para ≥5	0 (0.0)	2 (0.7)	2 (0.5)
	Fisher's exact test = 3.145; p-value = 0.334		
Gestational age at delivery			
≤36 weeks	12 (13.6)	42 (13.8)	54 (13.7)
36 - 40 weeks	67 (76.1)	201 (65.9)	268 (68.2)
>40 weeks	7 (8.0)	44 (14.4)	51 (13.70
Not specified	2 (2.3)	18 (5.9)	20 (5.1)
	Chi Square =5.021; p-value = 0.170		
Medical condition in pregnancy			
Yes	27 (30.7)	46 (15.1)	73 (18.6)
No	61 (69.3)	259 (84.9)	320 (81.4)
	Chi Square = 10.989; p-value = 0.001*		

*Statistically significant ($p<0.05$)

Table 2: Factors related to desire and use of analgesia among parturients at RSUTH

Variables	Frequency	Percentage
Desired analgesia during labour		
Yes	318	80.9
No	75	19.1
Requested analgesia during labour (N = 318)		
Yes	92	28.9
No	226	71.1
Type of analgesia received during labour (N = 92)		
None	75	81.5
Pentazocine	10	10.9
Epidural	6	6.5
PCM	1	1.1

Table 3: Labour pain perception and request for labour analgesia among parturients at RSUTH

	Request for labour analgesia		
Labour pain perception	**Yes n (%)**	**No n (%)**	**Total n (%)**
Mild	1 (1.1)	4 (1.3)	5 (1.3)
Moderate	1 (1.1)	40 (13.1)	41 (10.4)
Severe	86 (97.7)	261 (85.6)	347 (88.3)
Total	88 (100.0)	301 (100.0)	393 (100.0)

Fisher's exact test = 13.334; p-value = 0.001*
*Statistically significant ($p<0.05$)

Table 4: Labour-related characteristics and request for labour analgesia among parturients at RSUTH

	Request of labour analgesia		
Variables (N = 393)	**Yes n (%)**	**No n (%)**	**Totaln (%)**
Mode of labour onset			
Spontaneous	78 (88.6)	275 (90.2)	353 (89.8)
Induced	6 (6.8)	17 (5.6)	23 (5.9)
Not specified	4 (4.5)	13 (4.3)	17 (4.3)
	Chi Square = 0.211; p-value = 0.900		
Duration of labour			
<8 hours	23 (26.1)	79 (25.9)	102 (26.0)
8 - 11 hours	13 (14.8)	45 (14.8)	58 (14.8)
12 - 24 hours	11 (12.5)	50 (16.4)	61 (15.5)
Not specified	41 (46.6)	131 (43.0)	172 (43.8)
	Chi Square = 0.875; p-value = 0.831		
Oxytocic use in labour			
Yes	80 (90.9)	236 (77.4)	316 (80.4)
No	8 (9.1)	69 (22.6)	77 (19.6)
	Chi Square = 7.938; p-value = 0.005*		
Perineal laceration at labour			
Yes	16 (18.2)	50 (16.4)	66 (16.8)
No	72 (81.8)	255 (83.6)	327 (83.2)
	Chi Square = 0.156; p-value = 0.693		
Episiotomy given			
Yes	30 (34.1)	91 (29.8)	121 (30.8)
No	58 (65.9)	214 (70.2)	272 (69.2)
	Chi Square = 0.580; p-value = 0.446		

*Statistically significant ($p<0.05$)

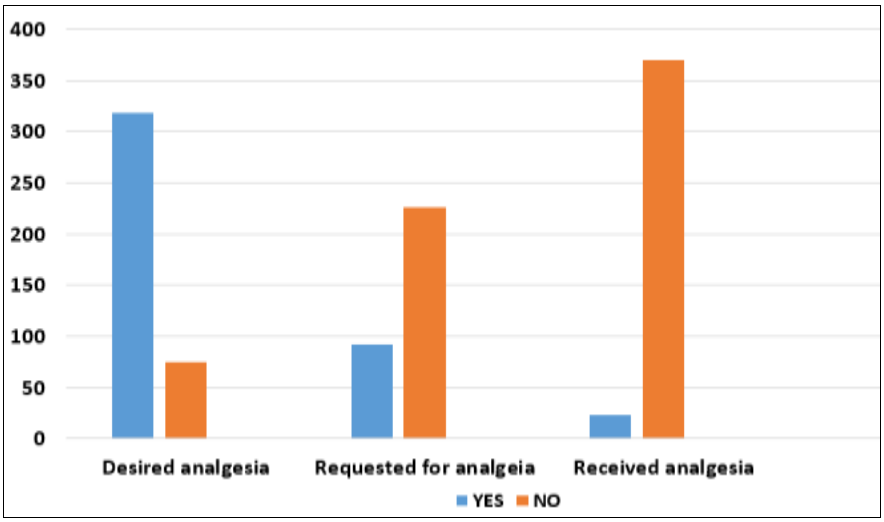

Fig 1: Analgesia in labour

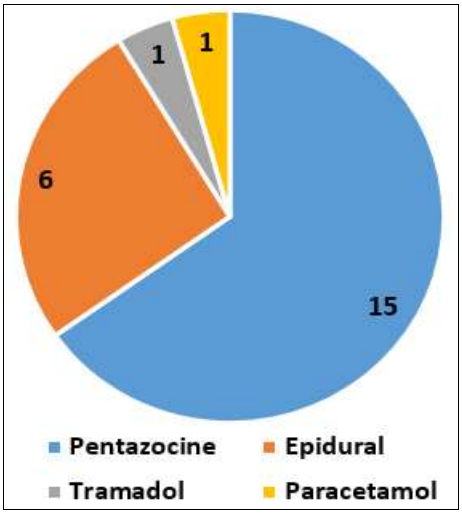

Fig 2: Analgesics received

Discussion

The desire for pain relief in labour was expectedly high from this study in line with majority of the parturients rating the labour pain as being severe. Surprisingly, despite the high desire, only few of the women requested for pain relief. This is similar to findings reported by Akadri *et al*. that reported 86.4% as proportion of those that desired pain relief in labour in South western Nigeria [7], and also that of Ezebialu *et al*. who reported that only 1.4% of the respondents requested for pain relief in spite of 91.3% of them rating the labour pain as being severe in Southeastern Nigeria [9].

This study has shown that only very few paturients (5.9%) received pharmacological method of pain relief in labour which is grossly inadequate. The pain relief however was mostly parenteral opioid (Pentazocine) which accounted for 65% of the drugs received. Onah *et al*. at Enugu reported a slightly higher value of 22.1% receiving medications for

pain relief in labour but also noted that 92.5% of these medications were pentazocine [5]. This is contrary to the gold standard globally which is currently epidural analgesia. The reports obtained here in Nigeria are similar to those obtained in most of the other low income countries. These may not be unconnected to the fact that there is no protocol on obstetric analgesia in most facilities. Poor utilization of analgesia in labour has also been attributed to lack of awareness of labour analgesia [12]. Polish women, however, have been found to choose mostly epidural analgesia as the most efficacious form of labour analgesia over the past ten decades contrary to the practice in most medium and low income countries [13]. Pietrzak *et al*. concluded from his research that women who deliver their babies in higher referral hospitals had better control of labour pain due to the accessibility of pharmacological methods of analgesia [14].

It was also noted in this study that certain factors such as occupational status, educational status, use of oxytocics, perception of labour pain as well as the presence of medical conditions in pregnancy are significantly associated with desire for analgesia in labour some of which were also reported by Steel *et al*. in Australia [15].

Analgesia in labour is highly desired by our women in labour due to the perceived severity of labour pain, however, the utilization of effective methods of pain relief has been greatly neglected. This may have contributed to the low request for pain relief by the women.

It is therefore necessary to have an effective guideline or protocol on labour analgesia and also enlighten the parturient as well as the care givers in order to achieve the benefits of a relatively pain free labour process.

References

1. Lawani LO, Eze JN, Anozie OB, Iyoke CA, Ekem NN. Obstetric analgesia for vaginal birth in contemporary obstetrics: A survey of the practice of obstetricians in Nigeria. BMC Pregnancy and Childbirth. 2014;14(140):1-6.
2. Eyeberu A, Getachew T, Debella A, Balis B, Eshetu B, *et al*. Utilization of pharmacological labour analgesia: A survey of obstetric care providers in Eastern Ethiopia. International Health. 2023;15(3):335-341.
3. Cynthia AW. Advances in labour analgesia. International Journal of Women's Health. 2009;1:139-154.
4. Elgzar WT, Alshahrani MS, Ibrahim HA. Non-pharmacological labour pain relief methods: Utilization and associated factors among midwives and maternity nurses in Najran, Saudi Arabia. Reproductive Health. 2024;21:11. https://doi.org/10.1186/s12978-023-01737-2.
5. Onah HE, Obi SN, Oguanuo TC, Ezike HA, Ogbuokiri CM, *et al*. Pain perception among parturients in Enugu, South-Eastern Nigeria. Journal of Obstetrics and Gynaecology. 2007;27:585-588.
6. Zuarez-Easton S, Erez O, Zafran N, Carmeli J, Garmi G, *et al*. Pharmacologic and non-pharmacologic options for pain relief during labour: An expert review. American Journal of Obstetrics and Gynecology. 2023;228(5):S1246-S1259.
7. Akadri A, Odelola O, Adepoju A. Labour analgesia in South West Nigeria: Methods and self-reported effectiveness. Journal of the West African College of Surgeons. 2022;9(4):15-20.
8. Imarengiaye CO, Ande ABA. Demand and utilization of labour analgesia service by Nigerian women. Journal of Obstetrics and Gynaecology. 2006;26(2):130-132.
9. Ezebialu IU, Ezenyeaku CC, Umeobika J, Ikeako LC, Ubbo GU, *et al*. Pain perception and desire for pain relief in labour among parturients in a tertiary health facility in Southeastern Nigeria. Orient Journal of Medicine. 2018;30(1-2):23-29.
10. Bayable AA, Bayable SD, Ashebir YG. Pharmacologic and non-pharmacologic pain management techniques in a resource-limited setting: A systematic review. Annals of Medicine and Surgery. 2022;74:103312. DOI:10.1016/j.amsu.2022.103312.
11. Ogbonna C. Research Methodology. Biostatistics. 8th ed. Medical Informatics and Research Methodology. Unijos Printing Press. 2014;1:227-228.
12. Workie MM, Chekol WB, Fentie DY, Ahmed SA, Bizuneh YB. Assessment of awareness, attitude, and desire for labour analgesia and associated factors among pregnant women in Ethiopia: A cross-sectional study. Pain Therapy. 2020;10(1):363-376.
13. Jodzis A, Waledziak M, Czajkowski K, Rozanska-Waledziak A. Intrapartum analgesia—Have women's preferences changed over the last decade? Medicina (Kaunas). 2022;58(1):87. DOI:10.3390/medicina58010087.
14. Pietrzak J, Medrzycka-Dabrowska W, Tomaszek L, Grzybowska. A cross-sectional survey of labour pain control and women's satisfaction. International Journal of Environmental Research and Public Health. 2022;19(3):1741. DOI:10.3390/ijerph19031741.
15. Steel A, Adams J, Sibbritt D, Broom A, Gallois C, Frawley J. Managing the pain of labour: Factors associated with the use of labour pain management for pregnant Australian women. Health Expectations. 2013;18(5):1633-1644.

How to Cite This Article
Dickson HJ, Leesi S-O, Hyness A-G, Felix CCW, Mkpe A, Simeon CA, *et al*. Utilization of labour analgesia: the experience with pharmacological agents among parturients at a tertiary centre in south-south Nigeria. International Journal of Advanced Research in Medicine. 2025; 7(1): 34-38.