Sierra Leone Journal of Biomedical Research

A publication of the College of Medicine and Allied Health Sciences, University of Sierra Leone)

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

Original Article

Survey of Current Practice of Labour Analgesia In Obstetricians-led Delivery Services in Nigeria: Implications For Pain-free Labour Initiative

[1]Raji Hadijat Olaide, [2]Suleiman Zakari Aliyu, [1]Ijaiya Munirdeen, [1]Abdul Ishaq Funsho, [3]Saka Mohammed Jimoh, [4]Adebara Idowu, [2]Adegboye Majid Babajide

[1]Department of Obstetrics and Gynaecology, Faculty of Clinical Sciences, University of Ilorin

[2]Department of Anaesthesia, Faculty of Clinical Sciences, University of Ilorin

[3]Department of Epidemiology and Community Medicine, Faculty of Clinical Sciences, University of Ilorin

[4]Department of Obstetrics and Gynaecology, Fderal Medical Centre, Iddo Ekiti

Abstracts

Background: Labour pain has been described as the worst possible pain known to mankind. It is more excruciating than cancer pain, phantom pain or toothache. Failure to relieve pain of any cause has been regarded as a violation of fundamental human rights. This study aimed to evaluate the current obstetrics analgesia practice among physicians in Nigeria, identify constraints to the practice and recommend solutions to improve the provision of such service to parturients.

Materials and Methods: This descriptive cross-sectional questionnaire-based study on the availability and practice of intra-partum analgesia services was conducted among practitioners at the Departments of Obstetrics and Gynecology of 3 tertiary health institutions located in 3 of the 6 geopolitical zones of Nigeria.

Results: Of the 120 questionnaires distributed to the participants, 81 (67.5%) of the respondents returned completed questionnaires. The age range of the respondents was 25-44 years with a mean age of 30.8 and a male to female ratio (M: F) of 1.7: 1. Majority of the respondents, 76 (93.8%) believed that intra-partum analgesia was important, epidural analgesia was the most known method of intra-partum analgesia by 86.4% of the participants and epidural analgesia was the most preferred, 61.7% of respondents. Majority of respondents, 66 (81.5%), did not have an institutional policy or protocol on intra-partum analgesia. Doctors working in the same centre responded differently to the questions in the distributed questionnaires; and this is suggestive of lack of departmental harmonisation of clinical practice in the form of Standard Operating Protocol on intra-partum analgesia.

Conclusion: Although there is a high level of knowledge of intrapartum analgesia among physicians, inconsistencies in its practice exist within and between tertiary hospitals in Nigeria. Notable absence of institutional policies on intra-partum analgesia at the practice facilities of the respondents was also observed.

Keywords: Obstetrics analgesia, physicians, current practices, Nigeria

Corresponding Author Email:suzack71@yahoo.com,Tel: +234 8064046040

Sierra Leone Journal of Biomedical Research

A publication of the College of Medicine and Allied Health Sciences, University of Sierra Leone)

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

Introduction

Labour pain has been described as the worst possible pain known to mankind. It is more excruciating than cancer pain, phantom pain or toothache (Melzack et al, 1981; Melzack R, 1984; Bergh I et al, 2012). Labour results in severe pain for many women and seems to be the only "medically permissible" circumstance when severe pain is seen as acceptable ACOG Committee opinion #295. The pain sensation associated with labour is still not completely understood but it is believed to arise from contractions, distension of the lower uterine segment and cervical dilatation during the first stage, and distension of the pelvic floor, vagina and perineum during the second stage of labour (Rowland S et al, 1998; Leeman L et al, 2003). Labour pain is a complex, subjective and multi-dimensional experience which involves a complex interaction of several influences; physiologic, psychological, cultural, environmental and psychosocial (Leeman L et al, 2003; Lowe NK, 1996; Lowe NK, 2002). The beliefs, mores and standards of the family, society and the health care system and its providers also play a role in labour pain and its management (Lowe NK, 2002).

Optimal intra-partum analgesia is an essential part of Obstetric practice, and several methods/techniques are available to choose from. Non-pharmacological methods of labour analgesia include continuous moral support, warm water baths, maternal positioning, relaxation, breathing exercises, and acupuncture among others; while nitrous oxide inhalation, parenteral opioids and regional analgesia are the pharmacological interventions. Although all of these methods have varying degrees of effectiveness, use of epidural analgesia appears to be the gold standard (Nystedt A et al, 2004; El-Wahab N et al 2011; Howell CJ, 2000).

Studies have shown that patients' perception and acceptance of health interventions could be influenced by various factors including source of information and level of awareness of the significance of the interventions (Berg A et al, 2001; Lee K et al, 2004). Hence, provider preferences of certain methods of intra-partum analgesia may influence patients' counselling and therefore patient's choice. Other factors known to affect pain management include method availability, institutional policies or protocols as well as knowledge and awareness of healthcare providers as physician knowledge and attitude has been found to play a significant role in pain management (Wadhwa R et al, 2015). Provision of intra-partum analgesia has also been found to be associated with improved satisfaction with childbirth (Mung'ayi V et al, 2008; Hodnett ED, 2002).

Although various surveys have been carried out to determine the knowledge and attitude of intra-partum analgesia among pregnant women in Nigeria (Olayemi O et al, 2003; Oladokun A et al, 2007; Chigbu CO et al, 2011), there is a paucity of studies evaluating physicians' knowledge and attitudes towards intra-partum analgesia. Evaluating the opinion of practitioners is important as this may influence patient management. This study evaluated the knowledge, attitude, practice and personal preferences of intra-partum analgesia among physicians in Nigeria. It also attempted to identify possible impediments to the practice of intra-partum analgesia with a view to influence physicians' decisions on intra-partum analgesia and change their current practices by proposing a simple, affordable and practicable institutional protocol on labour analgesia services in our environment.

Materials and Methods

This descriptive cross-sectional questionnaire-based survey was conducted at Departments of Obstetrics and Gynaecology of University of Ilorin Teaching Hospital, Kwara State, Federal Medical Centre, Iddo Ekiti, Ekiti State and Federal Medical Centre, Birnin Kebbi, Kebbi State, representing tertiary health facilities in 3 of the 6 geopolitical zones of Nigeria, following ethical approval from

Sierra Leone Journal of Biomedical Research

A publication of the College of Medicine and Allied Health Sciences, University of Sierra Leone)

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

the ethical review committees of these institutions. Structured questionnaires were distributed to Obstetricians (24), resident doctors (55) as well as interns (48) in the 3 surveyed hospitals. Participation in the study was voluntary and oral approval was obtained from study participants.

A range of information such as age, previous deliveries (or partner's deliveries) and previous utilization (or partner's utilization) of intra-partum analgesia during previous labour experiences was obtained from all the participants. Open ended questions to determine the knowledge of the physicians on the various methods of intra-partum analgesia were also included in the questionnaires. These questions were made open ended to allow the respondents to list all the forms of analgesia they knew as well as perceived the best form of obstetric analgesia. Information on the physicians' previous counselling of women for, and reasons if any, for not offering counselling, percentage of women counselled for intra-partum analgesia in the preceding year, their personal preferences regarding intrapartum analgesia and availability of institutional protocol for the practice were also obtained.

Specific information on epidural analgesia was assessed to determine practitioners' opinions about the method using a 5-point Likert scale; ranging from 1-5 indicating responses from strongly agree to strongly disagree.

Data was analyzed using SPSS version 21 statistical software and $p<0.05$ was taken as level of significance. Frequency and percent distributions were obtained for data and Chi-square test was used for group comparisons.

Results

Of the 120 surveyed practitioners, 81 respondents returned completed questionnaires giving a response rate of 67.5%. Table 1 shows the age, gender and cadre of respondents. Forty-seven (58%), 32 (39.5%) and 2 (2.5%) of the respondents were Obstetrics and Gynaecology trainees, interns and Consultants respectively. Majority of respondents were within the age bracket of 24-44 years with a mean age of 30.8 and a male to female ratio (M:F) of 1.7:1. Forty nine (60.5%) of respondents reported that either they or their partner had had at least one previous birth.

Table 1: Socio-demographic characteristics of the respondents

Variables	N (%)
Age (years)	
Mean: Range:	30.8 24 - 44
Sex	
Male Female	51 (63.0) 30 (37.0)
Ethnicity	
Yoruba Hausa Igbo Others	60 (74.1) 6 (7.4) 7 (8.6) 8 (9.9)
Marital status	
Single Married	32 (39.5) 49 (60.5)
Cadre	
Consultants Resident doctors Interns	2 (2.5) 47 (58.0) 32 (39.5)
Personal/spousal experience of labour	
Yes No	49 (60.5) 32 (39.5)

N= number of physicians

Knowledge of various methods of intra-partum analgesia was high among the surveyed respondents with 74 (91.4%) being aware of at

Sierra Leone Journal of Biomedical Research

A publication of the College of Medicine and Allied Health Sciences, University of Sierra Leone)

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

least 2 different methods. More respondents, 70 (86.4%) exhibited more information regarding epidural analgesia than other pharmacological methods and none of the respondents listed any non-pharmacological method of analgesia (Table 2).

Table 2: Knowledge and perception of intra-partum analgesia

Methods	N (%)
Pharmacological:	
Epidural analgesia	70 (86.4)
Par-enteral opioids	47 (58.0)
Inhalational gas	17 (21.0)
Other methods	39 (48.1)
Non pharmacological: **Perceived Best Methods:**	
Epidural	56 (69.1)
Opioids	1 (1.2)
Inhalational	3 (3.7)

Parenteral opioids were the commonest form of analgesia and were prescribed by 50% of the respondents. Over half of the respondents, 44 (54.3%), with previous personal or spousal experiences of labour did not receive any form of intra-partum analgesia during their previous labour, though they would have preferred it, 28 (34.3%) of the respondents did not regret not receiving intra-partum analgesia and 9 (11.4%) were indifferent.

More than half of the respondents, 48 (59.3%) had never counselled a pregnant woman on the various methods of intra-partum analgesia during their career. Similarly, more than half of respondents (54.3%) had not prescribed any form of intra-partum analgesia in the preceding one year (Figure 1).

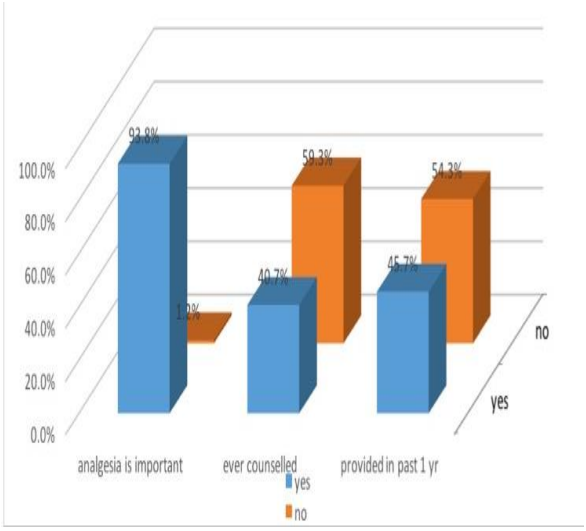

Figure 1: Perception and practice of intra-partum analgesia among respondents

Although majority, 76 (93.8%), of surveyed practitioners believed that intra-partum analgesia was important and 50 (61.7%) admitted that epidural analgesia was the most preferred form, close to half of respondents 38 (46.9%) were of the opinion that intrapartum analgesia should not be routinely offered to parturients, (Figure 2).

Regarding epidural analgesia for labour, more than two thirds, 56 (69.1%), of the respondents believed that it was the best form of labour analgesia and 43 (53%) of them opined that it should be routinely offered to women while 18 (22.3%) strongly felt that it should not be routinely offered and 20 (24.7%) did not hold any opinion.

Over three quarters, 66 (81.5%), of the respondents admitted to non-availability of policy

Sierra Leone Journal of Biomedical Research

A publication of the College of Medicine and Allied Health Sciences, University of Sierra Leone)

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

or protocol on intra-partum analgesia within their respective Departments.

Figure 2: Opinions regarding prescription of intrapartum analgesia

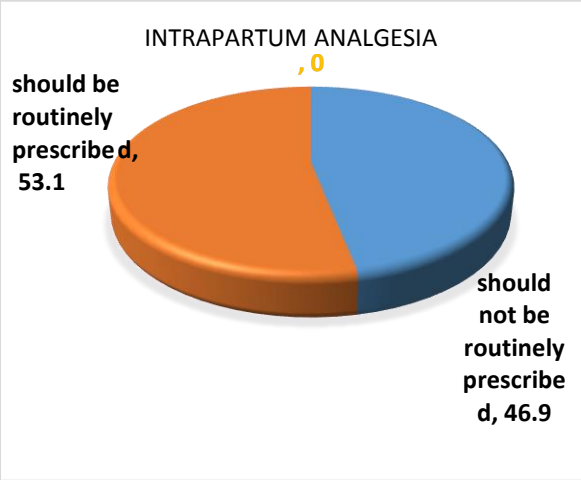

Figure 2: Opinions regarding prescription of intrapartum analgesia

The perceived complications of intra-partum epidural analgesia included interference with normal progress of labour by 24 (29.7%) respondents, prolonged duration of labour by 34 (41.9%) respondents, increased the rate of Caesarean section by 21 (25.9%) respondents and increased rates of instrumental vaginal delivery by 35 (43.2%) of the surveyed practitioners.

Though, male respondents were found to be twice as likely to have previously counselled a woman for intra-partum analgesia when compared with female respondents (OR=2.074), there was no statistically significant relationship between the sex of respondents and their belief regarding the importance of intra-partum analgesia (p=0.878).

Fifty two (64.2%) of the respondents did not offer any reason for non-prescription of intra-partum analgesia. Of the 35.8% who volunteered a reason, these varied from non-availability of a departmental protocol to not seen it prescribed before; belief that women want to experience labour pain, physicians' fear of side effects, and non-availability of anaesthetists (Figure 3).

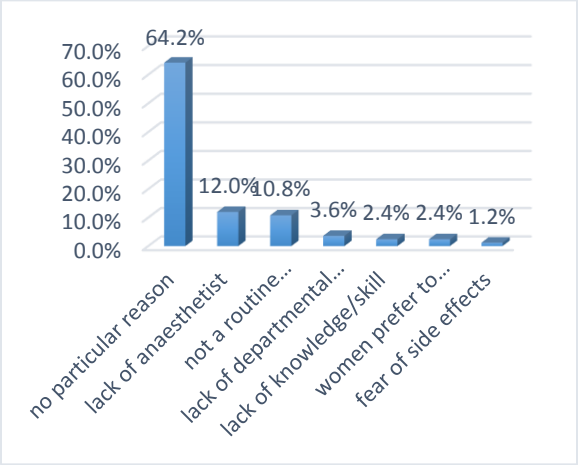

Figure 3: Reasons for non-prescription of intra-partum analgesia

Discussion

The data from this study shows a high level of knowledge of various methods of intra-partum analgesia among physicians, majority of whom believed that providing intra-partum analgesia to parturients is important. This study also revealed that physician attitudes towards provision of such services were poor as many of the respondents felt that the service should not be routinely provided. This is at variance to their high level of belief in the importance of intra-partum analgesia. In addition, about 60% of the surveyed physicians had never counselled pregnant women on any form intra-partum analgesia before.

The high level of knowledge of physicians on various methods of intra-partum analgesia and the belief by majority of the respondents that provision

Sierra Leone Journal of Biomedical Research

A publication of the College of Medicine and Allied Health Sciences, University of Sierra Leone)

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

of such service is important obtained from our study are comparable with the results of similar work (Ogboli-Nwasor E et al, 2011) setting the stage for asserting that knowledge and belief of physicians on intra-partum analgesia services cut across the various categories of respondents in Nigeria. However, the two studies differ in the percentage of respondents who believed that intra-partum analgesia should be routinely provided to parturients. Whereas close to half of the respondents in our study (46.9%), despite their high level of belief in the importance of intra-partum analgesia, posited that the service should not be routinely offered to parturients, a high percentage of the studied physicians in Zaria had a contrary opinion as 94.8% of them opined that women should receive analgesia during labour and childbirth Ogboli-Nwasor E et al, 2011.

Given that 48 (59.3%) of the respondents in this study had never counselled pregnant women on any form of intra-partum analgesia, it indicates that a wide gap exists between the physicians' knowledge, attitudes and current practices of intra-partum analgesia despite high knowledge about the services. The findings from the present study as it relates to the knowledge and attitudes of physicians on intra-partum analgesia can be said to be truly representative of the current practice in Nigeria due to the multi-centre nature of this study and inclusion of only physicians involved in maternity services. The selection of three tertiary health institutions in 3 of the 6 geo-political zones in Nigeria ensured wide coverage of different practices of labour analgesia nationally.

One of the main findings from this study, failure of most practitioners (59.3%) to counsel pregnant women on intra-partum analgesia during antenatal visits, is in congruence with the result obtained by (Oladokun A et al, 2007). They observed that less than a quarter (22.9%) of Nigerian women received information about intra-partum analgesia from antenatal counselling sessions. They also reported that the media was the commonest source of information about intra-partum analgesia to the parturients, (30.9%).

It has been reported that less than 40% of Nigerian women are aware of intra-partum analgesia (Olayemi O et al, 2003; Okeke CI et al, 2005), and physicians' attitudes to provision of intra-partum analgesia as observed in this present study might have been partially responsible. Similarly, (Oladokun A et al, 2007) observed that less than half of their study population (47.5%), expressed a desire for intra-partum analgesia. Their findings might be explained by postulating that counselling of parturients on intra-partum analgesia was not adequately emphasized during antenatal health education sessions by their care providers.

The two studies however observed a higher desire for intra-partum analgesia among health care workers. This contrasts with the finding in the current study in which the response to the question "would you have preferred to have received intrapartum analgesia in your previous delivery?", revealed that up to 34.3% of respondents with previous personal or spousal experience of labour were happy not to have received intrapartum analgesia and 11.4% were indifferent. Similarly, the attitudes of physicians towards labour analgesia were found to be responsible for denying more than 60% of parturients who requested for the service in a study conducted from South east Nigeria (Ogboli-Nwasor E et al, 2011; Chigbu CO et al, 2011). From the cited studies (Ogboli-Nwasor E et al, 2011; Oladokun A et al, 2007; Chigbu CO et al, 2011), ambivalence and outright refusal of healthcare providers to provide intra-partum analgesia are common in low resource settings; and this is in agreement with our finding where close to half of the surveyed physicians did not believe that intra-partum analgesia should be provided to pregnant women.

It has been shown that extreme fear of childbirth complicates 6-10% of pregnancies and has been found to be strongly associated with fear of labour pain (Saisto T et al, 2003; Billert H et al, 2017). A woman's experience of childbirth are influenced not only by her expectations and the complexity of her labour, but also by the severity of the pain experienced during labour (NICE Intra-partum care 2014). It is therefore encouraged that physicians should ensure that women's

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

experiences of labour are positive by providing either non-pharmacological or pharmacological method of pain relief in labour to pregnant women. It should be noted that most of the non-pharmacological methods of intra-partum analgesia are non-invasive and appear to be safe for mother and baby, although their efficacy is unclear. In contrast, more evidence is available to support the efficacy of pharmacological methods of intra-partum analgesia. Despite the foregoing, physicians should routinely counsel women on both pharmacological and non-pharmacological methods with the merits and demerits of each method. It should be recognized that each woman has her own level of pain tolerance and this may vary, depending on her previous experiences and current circumstances. Health care providers need to be trained in order to respond appropriately to intra-partum pain situation based on a woman's reports of pain.

Ideally, the decision that intra-partum analgesia should be provided or not as well as what method of labour analgesia to be provided should remain the prerogative of the parturients. As such, all pregnant women should be routinely educated about all the available methods of intra-partum analgesia as well as the possible side effects in order to ensure that an informed decision is made.

The United Kingdom's National Institute of Health and Clinical Excellence (NICE) advocates that health care professionals should consider how their attitude to a woman's coping with labour pain may be influenced by their own personal values or beliefs and should ensure they provide care that supports a woman's choice irrespective of their own personal preferences. The method used should be tailored to each woman's wishes, needs and circumstances, such as anticipated duration of labour, the infant's condition, and any augmentation or induction of labour (Jones L et al, 2012).

In Nigeria, little attention is being given to labour analgesia during childbirth perhaps because some cultures regard the ability to bear labour pain as part of exhibition of womanhood or due to the relatively low awareness of intra-partum analgesia among Nigerian women when compared with women in other developing countries such as India, Kenya and South Africa: 27.1% -38.9% (Olayemi O et al, 2003; Okeke CI et al, 2005; Imarengiaye CO et al, 2006) vs 10%-78% (Mugambe JM et al, 2007; James JN et al, 2012), 56% and 56.3% (Mun'gayi V et al, 2008; Mugambe JM et al, 2007) respectively. Most information about intra-partum analgesia among pregnant Nigerian women is obtained from the media and not from antenatal education or counselling sessions (Ogboli-Nwasor E et al, 2011). Physicians' knowledge and attitudes may be partly responsible for this.

This study revealed a high level of awareness of pain relief methods which was inversely unmatched by physicians' practices. Absence of institutional policies on labour analgesia, fear of side effects of the pain relief methods, insufficient manpower and cultural influences were contributory factors.

Adapting the initiatives of NICE, pain-free labour initiative can be achieved in Nigeria through the implementation of certain key strategies such as evidence-based education for health-care providers on pain relief during labour. Such education should focus on ways of equipping physicians with the proper skills on assessment of pain, counselling on and provision of various methods as well as the management of associated side effects. In other words, capacity-building of physicians to provide labour analgesia services during labour should be prioritized. Continuing medical education on the merits of provision of intra-partum analgesia services may also contribute to attitudinal change by providers. This can be achieved through the existing Continuous Medical Education (CME) program organised by Nigerian Medical Association. Similarly, curricula for undergraduate medical training and postgraduate residency training in Obstetrics and Gynaecology and Anaesthesia can be developed with more emphasis on knowledge of intrapartum analgesia services and need for a positive attitude towards its provision. Furthermore, development of institutional management protocols and guidelines on labour analgesia are needed to bring about significant improvement in labour pain

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

management in Nigeria; and these should be widely disseminated to all obstetrics staff attending to women in labour.

One of the limitations of this study however is that not all the physicians involved in the obstetrics services was included in the survey. Few were not available at the time of the survey while others did not return completed questionnaires. The other constraint of the study is that the survey was conducted in 3 of the 54 tertiary health facilities in Nigeria. Thus, a similar study can be carried out at secondary and primary healthcare centres in order to obtain a more comprehensive attitude and practice of intrapartum analgesia among physicians in Nigeria

References

ACOG Committee opinion #295. Pain relief during labour. Obstset Gynecol 2004:104;213

Berg A, Yuval D, Ivancovsky M, Zalcberg S, Dubani A, Benbassat J (2001). Patient perception of involvement in medical care during labor and delivery. Isr Med Assoc J. 3(5):352-356

Bergh I, Soderlund T, Vinterskog L, Martensson LB (2012). Reliability and validity of the Acceptance Symptom Assessment Scale in assessing labour pain. Midwifery. 28:e684-e688

Billert H (2007). Tokophobia-a multidisciplinary problem. Ginekol Pol. 78(10):807-811

Chigbu CO, Onyeka TC (2011). Denial of pain relief during labour to parturients in South-East Nigeria Int J Gynaecol Obstet. 114: 226–228

El-Wahab N, Robinson N (2011). Analgesia and anaesthesia in labour. Obstet Gynaecol Reprod Med. 21:137–141

Hodnett ED (2002). Pain and women's satisfaction with the experience of childbirth: A systematic review. Am J Obstet Gynecol. 186:S160–S172.

Howell CJ (2000). Epidural versus non-epidural analgesia for pain relief in labour. Cochrane Database Syst Rev. 2:CD000331.

Imarengiaye CO, Ande AB (2006). Demand and utilization of labour analgesia service by Nigerian women. J Obstet and Gyn. 26(2):130-132

James JN, Prakash KS, Ponniah M (2012). Awareness and attitudes towards labour pain and labour pain relief of urban women attending a private antenatal clinic in Chennai, India. Ind J Anaesth. 56(2):195-198.

Jones L, Othman M, Dowswell T, Alfirevic Z, Gates S, Newburn M, Jordan S, Lavender T, Neilson JP (2012). Pain management for women in labour: an overview of systematic reviews. Cochrane Database of Systematic Reviews. (3):CD009234. DOI: 10.1002/14651858.

Lee K, Ho KM (2004). Obstetric regional analgesia services in New Zealand: a national survey. N Z Med J. 117(1206): U1177

Leeman L, Fontaine P, King V, Klein MC, Ratcliffe S (2003). The Nature and Management of Labour Pain: Part I. Non-pharmacologic Pain Relief. Am Fam Physician. 68(3): 1109-1112.

Lowe NK (1996). The pain and discomfort of labour and birth. J Obstet Gynecol Neonatal Nurs. 25(1): 82-92

Lowe NK (2002). The nature of labour pain. Am J. Obstet Gynecol. 186(5):S16-24

Melzack R, Taenzer P, Feldman P, Kinch RA (1981). Labour is still painful after prepared childbirth training. CMAJ. 125:357-363.

Melzack R (1984). The myth of painless childbirth. Pain. 19:321.

Mugambe JM, Nel M, Hiemstra LA, Steinberg WJ (2007). Knowledge of, and attitude towards pain relief during labour of women attending the antenatal clinic of Cecilia Makiwane Hospital, South

©Sierra Leone Journal of Biomedical Research SSN 2076-6270 (Print)

Vol.8(2), pp.18-26, December, 2016 ISSN 2219-3170 (Online First)

Africa. South African Family Practice. 49(4):16a-16d.

Mung'ayi V, Nekyon D, Karuga R (2008). Knowledge, attitude and use of labour pain relief methods among women attending antenatal clinic in Nairobi. East Afr Med J. 85(9):438-441

NICE Intrapartum care (2014). Care of healthy women and their babies during childbirth. Clinical guideline 190. Methods, evidence and recommendations. Available at https://www.nice.org.uk/guidance/cg190/resources/intrapartum-care-for-healthy-wome-and-babies-35109866447557.

Nystedt A, Edvardsson D, Willman A (2004). Epidural analgesia for pain relief in labour and childbirth – a review with a systematic approach. J Clin Nurs. 13:455–466.

Ogboli-Nwasor E, Adaji S, Bature S, Shittu O (2011). Pain relief in labour: A survey of awareness, attitude, and practice of health care providers in Zaria, Nigeria. J Pain Res. 4:227–232.

Okeke CI, Menah NA, Cole SU, Osibogun A (2005). Knowledge and perception of obstetric analgesia among prospective parturients at the Lagos University teaching hospital. Niger Postgrad Med J. 12(4):258-261

Oladokun A, Morhasson-Bello IO, Eyelade OR, Adedokun BO, Akinyemi JO, Adewole IF (2007). Awareness and desirability of the Nigerian Antenatal women about analgesia during childbirth. Nig J Med. 47(4):85-88

Olayemi O, Aimakhu CO, Udoh ES (2003). Attitudes of patients to obstetric analgesia at the University College Hospital, Ibadan. Nigeria. J Obstet Gynaecol. 23(1):38-40

Rowlands S, Permezel M (1998). Physiology of pain in labour. Bailliere's Clin Obstet Gynaecol. 12(3):347-362

Saisto T, Halmesmaki E (2003). Fear of childbirth: a neglected dilemma. Acta Obstet Gynecol Scand. 82(3):201-208

Wadhwa R, Chilkoti G, Saxena AK (2015). Current Clinical Opinions, Attitudes and Awareness of Interns Regarding Post-operative and Cancer Pain Management in A Tertiary Care Centre. Indian J Palliat Care. 21(1):49-55