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Perception and utilization of epidural analgesia among antenatal attendees in a Nigerian tertiary health institution

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ABSTRACT

Introduction: Pain in labor contributes significantly to many morbidities and mortalities during labor and childbirth. Labor is a naturally painful experience, and delivery process varies among women. Epidural analgesia has been developed to alleviate labor pains, which helps to have a positive health outcome for both mother and child. This necessitates the need to examine the perception and utilization of epidural analgesia among pregnant women receiving skilled antenatal care.

Methods: A cross-sectional design was used with a simple random sampling technique to select 120 pregnant women attending antenatal clinic in University College Hospital Ibadan. A validated questionnaire ($r=0.72$) was used for data collection. Data were analyzed using descriptive and inferential statistics. Ethical approval was obtained before the commencement of data collection.

Results: The mean age of the respondents was 31.1 years. The pregnant women had a poor perception of epidural analgesia (mean=41.6) and 47.5% had a good perception. Pregnant women demonstrated low utilization (mean 17.7) and 48.3% of the respondents had high utilization of epidural analgesia. Major factors influencing their utilization of epidural analgesia include: labor pain is natural and does not need any medical intervention (77%), fear of additional cost during delivery (78%), lack of adequate knowledge about epidural analgesia (71%), husband unwillingness to support (65%), and pain from the procedure or needle (62%).

Conclusion: In the light of the benefits of epidural analgesia during labor, it is important that midwives delivering health talks in antenatal clinic should improve on their effort to adequately educate pregnant women on the usage of epidural analgesia and its effect to relief labor pain.

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Introduction

Motherhood comes with many prices for every woman, and one of such is the pain of childbirth¹. However, childbirth is the most painful experience encountered by most women, and it is only the woman in labor who can describe the extent of the pain [1]. Labor pain has diverse physiological and psychosocial effects on most pregnant women [2]. Untreated labour pain may lead to maternal hypertension, hyperventilation, and excessive release of catecholamine, which results in diminished oxygen transfer to the foetus [3].

The American Society of Anesthesiology agrees that in the absence of a medical contraindication, maternal request is a sufficient medical indication for pain relief during labor [2]. In addition, the World Health Organization stated that the provision of pain relief during delivery is a shared decision between the healthcare professional and the woman [4]. Furthermore, The

National Institute of Clinical Excellence of the United Kingdom recommends educating women on the options and availability of effective analgesia in labor to ensure that women receive optimal analgesia during childbirth [5].

Epidural analgesia is seen as the gold standard technique of relieving labor pain with no evidence of harm to the neonate and the most effective method for restoration of normal uterine activity [6]. Also, the action of an epidural is to provide analgesia or pain relief rather than anesthesia, which leads to a total lack of feeling and provides complete relief of labor pain (90-95%) when administered timely and does not impede the progress of the first stage of labor [7]. Also, the epidural analgesia administered to reduce labor pain must be safe, effective, timely, efficient, equitable, and woman-centered. Ideally, it should not interfere with labor or the mobility of women in labor [8].

The use of epidural analgesia for relief of labor pain has increased globally in recent time. Approximately 60% of laboring women (2.4 million each year) choose epidural analgesia for pain relief

during labor [2,4]. In Nigeria, 94.8% of labor-experienced mothers agreed that pain relief is needed during labor [9].

Although the concept of epidural analgesia is widely accepted in the management of labor pain, studies have revealed that the technique is not popular and is used especially in developing countries like Nigeria [10]. In contrast, labor pain management practice is good in developed countries but poor in developing countries, such as countries in Africa, because pregnant women in developing countries are often unaware that such pain treatment is available, which leads to low demand for the service and for analgesia such as an epidural [11].

Hence, this study was carried out to assess the perception and utilization of epidural analgesia in labor among pregnant women attending antenatal clinics in the University College Hospital, Ibadan.

Methods

Design and Setting

A cross-sectional purposive study design was used. The study was carried out among pregnant women attending the antenatal clinic in University College Hospital, Ibadan. A simple random sampling technique was used to select 120 pregnant women who participated in the study, using Cochran's formula.

Data Collection

Face and content validity were performed to ascertain the validity of the instrument. A pilot test and test-retest method of reliability was carried out using twelve pregnant women twice within a time interval of two weeks. This result was correlated using Cronbach's Alpha formula; the resulting reliability coefficient was 0.72, which shows the instrument is reliable. The validated structured questionnaire ($r=0.72$) was then used for data collection on sociodemographics, perception and utilization of epidural analgesia among pregnant women and factors influencing utilization of epidural analgesia. Responses of 'perception' were analysed using the mean. The responses were assigned scores as follows: Strongly agree=5, Agree=4, Strongly disagree=3, Disagree=2, and Undecided=1. The mean of each item that assessed perception was calculated. A total score ≥ 40 was noted as a good perception and vice versa. Responses of 'utilization' were also analysed using the mean. The responses were assigned scores as follows: Yes=2 and No=1. A mean score ≥ 18 was regarded as high utilization and vice versa.

Ethical approval was obtained from University College Hospital ethical research committee and Chairman Medical Advisory Committee, for permission to carry out the research in antenatal clinic in University College Hospital, Ibadan. The ethical principles of research were maintained. The consent of the participants was ascertained by explaining the purpose of the research and informing them that their participation was voluntary. Also, they were assured of confidentiality and anonymity of all information that was given.

Analysis

Data entry, coding, and data running was done using Statistical Package for Social Sciences 20.0 (SPSS 20.0). Data were analysed

using descriptive statistical method such as simple percentage, frequency counts and inferential statistics such as chi-square was implored to test hypotheses.

Results

The mean age of the respondents was 31.1 years, the majority were Christians (74.8%), Yoruba (87.3%) and had tertiary education (92.4%) (Table 1).

Table 1: Socio-Demographic Characteristics of Pregnant Women attending Antenatal Clinic, University College Hospital, Ibadan, Nigeria (N=120)

Variables	Frequency (%)
Age	
21-25	15 (12.5)
26-30	42 (35.0)
31-35	41 (34.2)
35-40	22 (18.3)
Monthly income	
Below ₦30,000	14 (12.0)
₦30,000 - ₦50,000	53 (44.0)
>₦50,000	53 (44.0)
Religion	
Christianity	90 (74.8)
Islam	30 (25.2)
Ethnicity	
Yoruba	105 (87.3)
Igbo	12 (10.2)
Others	3 (2.5)
Educational status	
Secondary	9 (7.6)
Tertiary	111 (92.4)
Occupation	
Civil servant	60 (50.0)
Trader	18 (15.0)
Farmer	1 (0.8)
Housewife	6 (5.0)
Others	35 (29.2)
Number of pregnancies	
One	53 (44.2)
Two	15 (12.5)
Three	10 (8.3)
Others	42 (35.0)

The pregnant women had a poor perception of epidural analgesia with a mean score of 41.6. Also, 51(42.5%) felt labor pain could be reduced by the use of epidural analgesia, 39(31.9) felt epidural analgesia would not affect their baby, and 33(28.2) of them thought epidural analgesia would cost more (Table 2).

Table 2: Participants' Response on Perception of Epidural Analgesia among Pregnant Women Attending University College Hospital, Ibadan, Nigeria (N=120)

Statements	S/A	A	S/D	D	U
Labor pain can be reduced by the use of epidural analgesia	50(41.7)	51(42.5)	3(2.5)	4(3.3)	12(10)
I feel epidural analgesia is more painful than labor pain	9(7.5)	14(11.7)	37(30.8)	30(25.0)	30(25.0)
I feel epidural analgesia will affect my baby	5(4.3)	9(7.6)	38(31.8)	39(31.9)	29(24.4)
I feel epidural analgesia will lead to permanent headache	13(11.0)	13(11.0)	23(19.5)	40(32.2)	31(26.3)
I feel epidural analgesia will affect my own health	10(8.3)	12(10.0)	30(25.0)	43(35.8)	25(20.8)
I feel epidural analgesia increases the risk for operative delivery	12(10.1)	16(13.4)	26(21.8)	40(32.9)	26(21.8)
I feel epidural analgesia increases the risk for prolong labor	10(8.3)	17(14.2)	27(22.5)	37(30.8)	29(24.2)
I think epidural analgesia will cost me more money	28(21.4)	33(28.2)	17(14.5)	23(19.7)	19(16.2)
I think epidural analgesia will take pain away and I believe pain must be present otherwise delivery will not take place normally	20(16.7)	25(20.8)	34(28.3)	27(22.5)	14(11.7)
I am aware this hospital offers epidural analgesia to manage labor pain	40(32.8)	38(31.9)	5(4.2)	8(6.7)	29(24.4)
I am aware epidural analgesia relief pain throughout labor period	34(28.8)	52(42.4)	11(9.3)	7(5.9)	(13.6)
I am aware epidural analgesia helps to prevent vaginal and cervical tear	21(17.8)	18(15.2)	23(19.5)	23(19.5)	35(28.0)
I can recommend epidural analgesia to my friends/relatives	32(27.4)	49(39.3)	6(5.1)	8(6.8)	25(21.4)
I can use epidural analgesia in my current pregnancy because it will ease my labor pain	34(28.8)	45(36.5)	7(5.9)	11(9.3)	23(19.5)

A few (14.3%) of the participants had ever used epidural analgesia in labor. (10.2%) reported that doctors mostly initiated the use of epidural analgesia in labor. Most (51.7%) had low utilization of epidural analgesia. Factors influencing utilization of epidural analgesia were lack of adequate knowledge about epidural analgesia (58.1%), labor is natural (63.9%), fear of additional cost (64.1%), and husband unwillingness (52.8%). and pain from needle or procedure (50%).

Table 3: Participants Response on Factors Influencing Utilization of Epidural Analgesia among Pregnant Women Attending University College Hospital, Ibadan, Nigeria (N=120)

Factors Influencing Utilization	Yes	No	I don't know	p-value
Labor is natural and good for women	77(63.9)	28(23.5)	15(12.6)	0.604
Lack of adequate knowledge about epidural analgesia	71(58.1)	23(19.7)	26(22.2)	0.835
Epidural analgesia prolong labor	20(17.0)	51(41.5)	49(41.5)	0.006
Concerns over possible risk to the baby	44(35.6)	37(31.4)	39(33.0)	0.458
Fear of additional cost	78(64.1)	29(24.8)	13(11.1)	0.016
Husband unwillingness	65(52.8)	39(33.6)	16(13.8)	0.228
Pain from needle or procedure	62(50.0)	36(31.0)	22(19.0)	0.021
I will not feel my baby coming	47(37.1)	28(24.1)	45(38.8)	0.032
Epidural analgesia may lead to complications	30(25.2)	39(32.8)	51(42.0)	0.166
Stigmatization about me for using epidural analgesia during labor	30(25.6)	61(49.6)	29(24.8)	0.002
My religion does not permit me to use epidural analgesia in labor	19(16.0)	87(72.2)	14(11.8)	0.023
My culture does not permit me to use epidural analgesia in labor	17(14.3)	89(73.9)	14(11.8)	0.002

Overall, pregnant women had poor perception and low level of utilization of epidural analgesia.

Discussion

The findings of the study revealed that the pregnant women that responded to the survey in University College Hospital Ibadan, Nigeria, have poor perception of epidural analgesia. A similar finding reported awareness of epidural analgesia among antenatal women [9]. Furthermore, a poor knowledge of epidural analgesia among pregnant women was reported by some studies [12,13].

The pregnant women had low utilization of epidural analgesia. This low level of usage of epidural analgesia among pregnant women in labor can be associated with a lack of adequate information and epidural analgesia not being recommended by doctors and midwives. This finding is congruent with the results from other studies conducted in the South Western and Northern parts of Nigeria [11,13]. The study revealed that less than half of the pregnant women expressed their desire to use epidural analgesia in the current pregnancy if provided with adequate information by doctors and midwives. This finding is similar to the study conducted among pregnant women attending the antenatal clinic at Federal Teaching Hospital, Abakaliki [14]. This presents an avenue for midwives delivering health talks in antenatal clinics should improve on their efforts to adequately educate pregnant women on epidural analgesia and its effect on relieving labor pain.

Factors such as labor pain is natural and do not need any medical intervention, fear of additional cost during childbirth, lack of adequate knowledge about epidural analgesia, husband's unwillingness to support, and pain from the procedure or needle, are the major factors influencing utilization of epidural analgesia among pregnant women. Similar studies reported that labor pain is natural and does not need any medical intervention rather feared that it may have a detrimental effect on the baby and a few think it may prolong labor [15,16]. Therefore, this means that healthcare providers especially nurses, midwives, and doctors must include the option of epidural analgesia among birth preparedness plans, as well as availability and subsidizing the cost of epidural analgesia in various health institutions.

Strengths and Limitations

A strength of the study was the ability of the researcher to get pregnant women to participate in the study given that in our society labor pain is natural and should be experienced by every woman in labor. The limitations of the study are time constraints caused by the bureaucracy encountered by the researcher in obtaining ethical approval and the pregnant women's lack of information about epidural analgesia and its usage in labor and it was difficult for them to fill the questionnaire.

Conclusions

The study revealed that the majority of the pregnant women attending antenatal clinics had inadequate awareness of epidural analgesia. The level of epidural analgesia utilization was low among respondents and the factors responsible were labor pain is natural and does not need any medical intervention, fear of additional cost during delivery, lack of adequate knowledge about epidural analgesia, husband's unwillingness to support and pain from the procedure or needle. There is a need to educate pregnant women on epidural analgesia and its effect on relieving labor pain.

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