

Awareness and Perception of Epidural Labor Analgesia Amongst Parturient in South Eastern Nigeria

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To cite this article:

Fidelis Anayo Onyekwulu, Innocent Chidiebere Ugwu, Elias Chikee Aniwada, Tochukwu Christopher Okeke. Awareness and Perception of Epidural Labor Analgesia Amongst Parturient in South Eastern Nigeria. *Clinical Medicine Research*. Vol. 6, No. 3, 2017, pp. 116-120.

doi: 10.11648/j.cm.20170603.20

Received: February 20, 2017; **Accepted:** March 27, 2017; **Published:** May 25, 2017

Abstract: This study was carried out to assess the awareness, perceptions, acceptance, and the level of utilization of epidural analgesia in relation to other methods of labor pain relief among prospective parturient attending the ante-natal clinic in south eastern Nigeria. Women attending the ante-natal clinic were interviewed using interviewer administered questionnaires containing both open and closed questions, to evaluate their awareness, perceptions, acceptance and level of utilization of labor analgesia in general and epidural analgesia in particular. Data were analysed using SPSS Statistics Version 21.0. The study included 150 women with mean age of 29.63±5.02. Most of the respondents (94.7%) had at least secondary school education. More than half the respondents (62.7%) knew about labor analgesia and 38.7% knew about epidural labor analgesia. Source of knowledge to vast majority (75.6%) were doctors and nurses. Majority of the multiparous respondents (81.27%) had moderate or severe pain in the previous confinement and only 53% had pain relieve. Of those who had pain relieve, two third had breathing exercises while 4.8% had epidural analgesia. Majority of the respondents (72.7%) would want to have labor analgesia, and 53.3% desired epidural in their next delivery. There is poor level of awareness and utilization of epidural labor analgesia by women attending an antenatal clinic in south eastern Nigeria.

Keywords: Epidural Analgesia, Labor Pain, Awareness and Perception

1. Introduction

Labor is seen as excruciatingly painful among most Nigerian women [1-5]. The pain of labor is not known to be beneficial to the process of labor; and it can be a source of extreme discomfort to the parturient [4].

Pain relief in labor has developed gradually since Simpson's discovery of chloroform for labor analgesia in 1847 [6, 7]. Today various pharmacological and non-pharmacological methods are in use for labor analgesia with varying degrees of success. Non-pharmacological methods of labor analgesia include breathing exercise, hypnosis, transcutaneous electrical nerve stimulation (TENS), low back

massage, acupuncture and supportive care. Pharmacological methods include parenteral opioids, inhalational agents, and epidural analgesia [4-7]. Epidural analgesia is seen as the gold standard for labor pain relief in the modern obstetric practice [8].

The evolution of labor analgesia is not only in the methods but also in the "medical profession's perspective of pain management from simply good practice to an imperative founded on patients' rights" [4, 8, 9].

Studies on the level of awareness, perception, attitude and use of epidural analgesia for labor pain relief show that awareness and utilization of epidural labor analgesia is still very low in developing countries [6, 7, 10-15].

With epidural analgesia as the gold standard of labor pain relief [8], and pain relief seen not only as good practice but patients' right [4, 9], the question becomes, 'how far has epidural analgesia for labor evolved in the south eastern part of Nigeria?'

The aim of this study was to assess the awareness, perceptions, acceptance, and the level of utilization of epidural analgesia in relation to other methods of labor pain relief among prospective parturient attending the ante-natal clinic in Nigeria.

2. Patients and Methods

2.1. Study Location

The study was carried out at the University of Nigeria Teaching Hospital Enugu Nigeria. It is a 700 bedded multi-specialist hospital and it's a referral centre for the south eastern region of the country.

2.2. Consent

After ethical clearance from the hospital's Health Research and Ethics Committee and informed consent from participants, 150 consecutive women attending the antenatal clinic from 2nd March 2016 to 24th April 2016 and willing to participate were selected and interviewed. Women who had caesarean section in the previous confinement were excluded from the study.

2.3. Data Collection

The interview was conducted using interviewer administered structured questionnaire. The questionnaires were written in English. Vernacular translations were provided for respondents with limited education. Verbal explanation of the concept of epidural labor analgesia was also given to respondents who asked.

Questions were asked about respondents' socio-demographic data, knowledge of labor analgesia, types of labor analgesia known, source of knowledge, rating of pain and use of pain relieve in the previous delivery, desire to have pain relief in labor, awareness and desire to have epidural analgesia in labor.

2.4. Data Analysis

Statistical analysis was done using IBM SPSS Statistics for Windows, Version 21.0. Responses to questions were presented in tables. Level of awareness of methods of labor analgesia was compared among the socio-demographic groups using chi-square test. P value less than 0.05 was considered statistically significant.

3. Results

The mean age of the respondents was 29.63±5.02 years. Most of the women (94.7%) had at least secondary school education, and (92.7%) were married and living with spouse.

Of the 117 multigravida respondents, 89(76%) had their last confinement in a private or a tertiary hospital (Table 1).

Table 1. Socio-demographics of respondents.

| | Frequency | Percentage |
|----------------------------------|-------------|------------|
| Age in categories (yrs) | | |
| ≤30 | 88 | 58.7 |
| >30 | 62 | 41.3 |
| Mean (SD) | 29.63(5.02) | |
| Marital Status | | |
| Married with spouse | 139 | 92.7 |
| Others | 11 | 7.3 |
| Tribe | | |
| Igbo | 141 | 94 |
| Others | 9 | 6.0 |
| Educational Level | | |
| Primary and below | 8 | 5.3 |
| Secondary and above | 142 | 94.7 |
| Employment | | |
| Unemployed | 38 | 25.3 |
| Employed | 112 | 74.7 |
| Religion | | |
| Christianity | 145 | 96.7 |
| Others | 5 | 3.3 |
| Gravidity | | |
| 1 | 33 | 22.0 |
| 2 | 82 | 54.7 |
| ≥ 3 | 35 | 23.3 |
| Mean(SD) | 1.64(1.27) | |
| Place of last confinement n=117* | | |
| Home | 3 | 2.6 |
| TBA | 3 | 2.6 |
| Private hospital | 41 | 35.0 |
| PHC | 8 | 6.8 |
| SHC | 14 | 12.0 |
| THC | 48 | 41.0 |

TBA- traditional birth attendants, PHC- primary health care centre, SHC- secondary health care centre, THC- tertiary health care centre.

*Number of respondents that had previous confinement (delivery).

The women's awareness of any pain relief in labor, the type of pain relief available and the sources of their knowledge are shown in Table 2. More than half of the respondents (62.7%) know about labor analgesia. About 75.6% of the women received information about pain relief from hospital staff, and breathing exercise (64.9%) is the most widely known type. Others include injection (59.6%) and epidural (38.3%).

Table 2. Knowledge of analgesia in labor.

| | Number (%) | Number (%) |
|---------------------------------------|------------|------------|
| | Yes | No |
| Awareness of any pain relief in labor | 94(62.7) | 56(37.3) |
| Types you know about n=94* | Yes | No |
| Injection | 56(59.6) | 38(40.4) |
| Breathing exercise | 61(64.9) | 33(35.1) |
| Epidural analgesia | 36(38.3) | 58(61.7) |
| Others | 7(7.4) | 87(92.2) |
| Source of Knowledge (First) n=94* | Frequency | (%) |

| | Number (%) | |
|-------------------|------------|--------|
| | Yes | No |
| Doctor | 42 | (44.7) |
| Nurse | 29 | (30.9) |
| Friends/relatives | 10 | (10.6) |
| Textbook | 9 | (9.6) |
| Media | 4 | (4.3) |

*Number of respondents that are aware of pain relief in labor.

Majority (81.2%) of the multigravida respondents had moderate or severe pain in the previous confinement, and only about half of them had pain relieve (Table 3). Breathing exercise was the most frequent mode of pain relief (66.2%) and only 3(4.8%) women had epidural labor analgesia.

Table 3. Rating of pain and use of analgesia in previous labor.

| Severity of pain in last confinement n=117* | Frequency | Percentage |
|---|-----------|------------|
| Mild | 22 | 18.8 |
| Moderate | 40 | 34.2 |
| Severe | 55 | 47.0 |
| | Yes (%) | No (%) |
| Any pain relief in previous confinement | 62(53.0) | 55(47.0) |
| Type of pain relief used n=62† | Frequency | Percentage |
| Injection | 18 | 29.0 |
| Breathing exercise | 41 | 66.2 |
| Epidural analgesia | 3 | 4.8 |

*Number of respondents that had previous confinement (delivery).

†Number of respondents that had pain relief in previous confinement.

Of the 150 respondents, 109(72.7%) desired to have labor analgesia. A good number of respondents 41(27.3%) does not desire pain relieve in labor. Most of them 15(36.6%) believe that labor pain is natural, 11(26.8%) women believe in divine intervention, 9(22%) feared side effects, 2(4.9%) believed they could cope with pain, 3(7.3%) feared it may affect the baby and 1(2.4%) had no confidence in pain relieve methods.

The beliefs and perception regarding epidural labor analgesia as expressed by the women is shown in Table 4. Less than half of the respondents 58(38.7%) were aware of epidural labor analgesia and 83(55.3%) desired to have this method of pain relief.

Table 4. Awareness and desire to have epidural analgesia.

| | Yes (%) | No (%) |
|--|----------|----------|
| Awareness of epidural analgesia in labor | 58(38.7) | 92(61.3) |
| Desire to have epidural analgesia in labor | 83(55.3) | 67(44.7) |
| Reasons for not desiring epidural analgesia n=67 | | |
| Could cope with pain | 8(11.9) | |
| No confidence in pain relief methods | 1(1.5) | |
| Labor pain is natural | 16(24.9) | |
| Faith in divine intervention | 12(17.9) | |
| Side effects | 9(13.4) | |
| Prolong labor | 2(3.0) | |
| Baby may be affected | 19(28.4) | |

The awareness of any method of pain relief in labor (Table 5) and epidural labor analgesia (Table 6) was compared

among the socio-demographic groups depicted by age, marital status, tribe, educational level, employment, religion and gravidity. No statistically significant difference was found amongst these groups ($p < 0.05$).

Table 5. Relationship between socio-demographics and awareness of any pain relief in labor.

| Variable | n= 150 | | Test Statistics | p-value |
|-------------------------|----------|----------|-----------------|---------|
| | Yes | No | | |
| | n (%) | n (%) | χ^2 | |
| Age in categories (yrs) | | | | |
| ≤30 | 56(63.6) | 32(36.4) | 0.086 | 0.770 |
| >30 | 38(61.3) | 24(38.7) | | |
| Marital Status | | | | |
| Married with spouse | 89(64.0) | 50(36.0) | 1.503 | 0.220 |
| Others | 5(45.5) | 6(54.5) | | |
| Tribe | | | | |
| Igbo | 88(62.4) | 53(37.6) | 0.065 | 0.798 |
| Others | 6(66.7) | 3(33.3) | | |
| Employment | | | | |
| Unemployed | 22(57.9) | 16(42.1) | 0.495 | 0.482 |
| Employed | 72(64.3) | 40(35.7) | | |
| Religion | | | | |
| Christianity | 90(62.1) | 55(37.9) | 0.664 | 0.415 |
| Others | 4(80.0) | 1(20.0) | | |
| Gravidity | | | | |
| First | 21(63.6) | 12(36.4) | | |
| 1-2 | 51(62.2) | 31(37.8) | 0.022 | 0.989 |
| ≥ 3 | 22(62.9) | 13(37.1) | | |

Table 6. Relationship between socio-demographics and knowledge of epidural analgesia.

| Variable | n= 150 | | Test Statistics | p-value |
|-------------------------|----------|----------|-----------------|---------|
| | Yes | No | | |
| | n (%) | n (%) | χ^2 | |
| Age in categories (yrs) | | | | |
| ≤30 | 31(35.2) | 57(64.8) | 1.062 | 0.303 |
| >30 | 27(43.5) | 35(56.5) | | |
| Marital Status | | | | |
| Married with spouse | 56(40.3) | 83(59.7) | 2.100 | 0.147 |
| Others | 2(18.2) | 9(81.8) | | |
| Tribe | | | | |
| Igbo | 54(38.3) | 87(61.7) | 0.135 | 0.714 |
| Others | 4(44.4) | 5(55.6) | | |
| Educational Level | | | | |
| Primary and below | 4(50.0) | 4(50.0) | 0.458 | 0.499 |
| Secondary and above | 54(38.0) | 88(62.0) | | |
| Employment | | | | |
| Unemployed | 13(34.2) | 25(65.8) | 0.426 | 0.514 |
| Employed | 45(40.2) | 67(59.8) | | |
| Religion | | | | |
| Christianity | 55(37.9) | 90(62.1) | 0.993 | 0.319 |
| Others | 3(60.0) | 2(40.0) | | |
| Gravidity | | | | |
| First | 10(30.3) | 23(69.7) | | |
| 1-2 | 35(42.7) | 47(57.3) | 1.565 | 0.457 |
| ≥ 3 | 13(37.1) | 22(62.9) | | |

4. Discussion

There is poor awareness of women about the use of epidural analgesia in labor. In this study less than half of the respondents (38.7%) were aware of epidural labor analgesia even when 92.7% of the women were multigravida, of which 76% had their last confinement in the private and tertiary hospitals. Most of the information acquired by the women regarding labor analgesia was gotten from hospital staff. This probably means that not enough information about the role of epidural analgesia in labor is provided to pregnant women attending the antenatal clinic.

The result from this study on awareness of epidural labor analgesia is higher than those of Oladokun *et al* [16] in the west (19.5%) and Iiyasu *et al* [10] in the north (8.6%) of Nigeria. This could be as a result of cultural and religious differences amongst the different regions and ethnic groups in the country. However this is similar to the figures reported from some other developing countries [7, 11, 15].

Despite the fact that epidural analgesia is seen as the gold standard for labor pain relief in the modern obstetric practice, only few parturient access this pain relief method especially in low socioeconomic settings. In this study only 4.8% of the respondents had epidural analgesia in previous confinement. The overall epidural labor analgesia rate reported by To *et al* [17] was 10% even though 47% of the antenatal patients had been exposed to the concept of epidural analgesia in labor.

Onah *et al* [2] found out that parturient in Enugu, south eastern Nigeria, perceive labor as a very painful process with only a minority of them receiving any form of intra-partum analgesia. Most of the respondents (81.2%) in this study had moderate to severe pain during labor in previous confinement and only 53% received some form of pain relief. About two third of these patients received breathing exercise. It is either that there is some apathy towards the demand for analgesia in labor by parturient or reluctance on the part of care givers to suggest or actually give pain medications during labor. In this study 37.3% of the pregnant women were not aware of any form of pain relief in labor and therefore may not demand for analgesia when they go into labor.

More than half of the respondents (62.7%) were aware of labor pain relief methods. This is comparable to the level of awareness of labor analgesia reported by previous studies [7, 11]. Various studies done in Nigeria on the level of awareness of labor analgesia reported 15-64% [4, 5, 10, 16, 18, 19]. This is similar to what was reported from some other developing countries [11-13, 15].

Majority of our respondents desired to have pain relieve in labor but less than one third does not. This group of women (27.3%) believes that labor pain is natural and they don't need any medical intervention but rather believe in divine intervention. This belief was shared by women in similar studies in Nigeria [18, 20]. Nevertheless, this misconception about labor analgesia needs to be addressed promptly.

The same belief was expressed by the women with respect to epidural labor analgesia. But in addition they feared that it may have detrimental effect on the baby and a few think it may

prolong labor [6]. Medical staff should also educate the patients about the side effects of this form of pain relief as some of the fears expressed by the respondents are well established.

In this study Doctors and nurses constitute the source of knowledge to the majority of women who were aware of labor analgesia. Antenatal education classes is very important as prospective parturient are taught what to expect during labor. Only a few respondents gained knowledge from text book and media. This observation is similar to previous studies [7]. However literature has also shown that friends, relatives and information leaflets could also be a major source of information [6, 11].

Most of the women interviewed were educated (94.7%). Awareness of pain relief in labor and epidural labor analgesia was similar among respondents of different age group, marital status, tribe, educational level, employment status, religion and gravidity. The numbers of respondents in each category however are lop-sided and a more balanced population may show the effects of these parameters on awareness of labor analgesia. Previous study has shown significant association between educational status and knowledge of obstetric analgesia [18].

More than half of the women desire to have epidural labor analgesia after receiving information about its role during labor. In order to translate this desire into a higher epidural analgesia rate; there must be a standard epidural analgesia service with a 24-hour coverage; the cost of providing epidural analgesia must be affordable, and the medical resources needed to support the services must be available.

5. Conclusion

There is poor level of awareness and utilization of epidural labor analgesia by women in Nigeria. Better dissemination of knowledge of epidural analgesia during the antenatal clinic could increase the proportion of women opting for epidural labor analgesia.

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