# DESIRE FOR OBSTETRIC ANALGESIA AMONG WOMEN IN NORTHERN NIGERIA

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## ABSTRACT

**Background**: Obstetric analgesia is now routinely provided in most developed countries. However, in developing countries including Nigeria, childbirth is still a painful natural process for most women without choice. This study determined labour pain perception, awareness and desire for obstetric analgesia among antenatal clients of Aminu Kano Teaching Hospital (AKTH) in northern Nigeria.

**Methods**: A hospital based cross sectional study was conducted in the Antenatal clinic of AKTH from March to April 2010. Questionnaires were filled by verbal interviews conducted on 400 antenatal clients.

**Results**: **Of those that have delivered at least once previously (n=284), majority (194, 68.3%) scored labour pain as severe 66(23.2%) said it was moderate while 24 (8.5%) claimed it was mild.** Only 15% (n=59) of the respondents were aware of at least one method of obstetric analgesia. The methods mentioned include Epidural (57.6%, n=34), injections (18.6%, n=11), breathing and relaxation (6.8%, n=4), social support (6.8%, n=4) and all the above methods mentioned (10.2%, n=6). Their main sources of information were friends (62.7%, n=37), books (17.0%, n=10), health worker (13.6%, n=8) and the Internet (6.8%, n=4). None have been offered any analgesia during labour. Majority 317 (79.3%) were desirous of pain relief during the delivery of their current pregnancy. On multivariate logistic regression analysis, educational attainment, ethnicity and awareness of methods of obstetric analgesia remained significant predictors of desire for obstetric analgesia.

**Conclusion**: There is a gross unawareness regarding pain relief in labour, but there is strong desire for same. Reforms in labour pain management are recommended offering parturients a range of safe methods to choose from.

**Keywords:** Labour pain, obstetric analgesia, awareness, desire, antenatal clients, Nigeria

## INTRODUCTION

Childbirth is considered a natural, albeit painful process for which women are expected to endure, especially in traditional cultures. This point of view has been shared by many cultures and is still very popular especially in developing countries including Nigeria.[1] Paradoxically, in developed countries after the introduction and acceptance of modern techniques of reducing labour pain, the 'Natural birth movement' emerged and insists on non-interference with the birthing process. This group argue that the use of pharmacological analgesic agents in parturients is unnecessary, unnatural and harmful.[2] Nevertheless, labour pain is considered by most women as the most severe pain one suffers in a life time.[3] Following the discovery of the efficacy of chloroform in easing pain during childbirth, Queen Victoria requested that James Simpson administer it during the delivery of her son. This paved way for overcoming powerful negative attitudes that discouraged pain relief during childbirth.[4] Poignantly, women are often treated differently than other patients suffering from pain. The American College of Obstetricians and Gynecologists recognized this double standard, noting that there is other circumstance in which it is considered acceptable to experience severe pain, amenable to safe relief, while under a physicians care.[5]

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Obstetric analgesia is defined as the elimination of sensibility to pain without loss of consciousness during labour, delivery and possibly the post partum period.[6] The aim of pain relief in labour is to make labour an emotionally satisfying experience where a woman is delivered of a healthy baby with as little distress, pain and exhaustion as possible and with minimal risk to both mother and foetus. Many options exist for obstetric analgesia ranging from non-pharmacological to pharmacological methods and these are routinely available to expectant mothers in the developed world. Preparations for some of these methods commence during the antenatal period and include gentle exercise, breathing, posture and relaxation techniques which are particularly useful in early labour. For some women this may be all that is required to make labour pains bearable. Other non-pharmacological methods include; hypnosis, acupuncture and Transcutaneous Electric Nerve Stimulation (TENS). Pharmacological methods include regional and general analgesics. The latter include systemic narcotics or opioids and inhalational agents, while methods of regional analgesia include pudendal block, epidural and spinal analgesia. Currently, epidural analgesia is the most reliable and most effective method of providing analgesia in labour giving it worldwide popularity. It is generally safe with little risk of harmful effects on mother and baby. It can also be used for emergency Caesarean section or assisted vaginal delivery.[7]

In the developed countries, analgesia is a very prominent feature of obstetric care. The various methods are not only available, but parturients are very much aware of these options and avail themselves of these methods as they wish. In contrast however, in most developing countries including Nigeria, "painless labour" is a relatively new concept though slowly gaining popularity as indicated by studies reported from Ibadan, Lagos and Enugu.[8-10] The perceptions of labour pain, awareness of methods of obstetric analgesia and desire for obstetric analgesia are largely unknown among parturients in Kano. This commercial nerve centre of northern Nigeria with over 9 million inhabitants has a distinct culture characterised by *'Purdah'=seclusion*, *'Kunya'=shyness or modesty*, low priority accorded to the education of the girl child, early marriage, high parity and low status of women. In this region, although antenatal attendance has improved, home deliveries are the norm with the assistance of traditional birth attendants or relatives. The provision of safe obstetric analgesia could encourage deliveries in health facilities thereby leading to improved maternal and foetal outcomes as the MDG target date approaches. As a first step however, there is a need to know the perception of labour pain and its relief considering the cultural intricacies associated with the birthing process in this conservative region. We therefore, assessed the perception of labour pain, level of awareness and predictors of desire for obstetric analgesia among women attending antenatal clinic at a large teaching hospital. We envisage that the findings could inform reforms in pain management during labour at this centre and in similar settings.

## METHOD

### Setting / Study Population

The study was conducted among pregnant women attending antenatal clinic at Aminu Kano Teaching hospital, Kano, Nigeria. This hospital serves both, as a tertiary and referral health centre for Kano and its environs. Aminu Kano Teaching Hospital (AKTH) is a 500-bed hospital established in 1988. Located in Kano, this hospital receives clients from within Kano and the neighbouring states of Jigawa, Katsina, Kaduna, Bauchi and Zamfara states. Majority of the patients are indigenous Hausa and Fulani, although the Igbo and Yoruba ethnic groups also constitute a substantial proportion of the cliental. Most of the people are traders, farmers, businessmen and civil servants.

### Study Design And Sample

The study was descriptive and cross-sectional. A sample size of 400 was obtained using the hypothesis testing method[11] and based on the following assumptions: 95% confidence level, awareness of methods of obstetric analgesia in a previous study[9] and a 5% margin of error. The calculated minimum sample size was inflated to account for anticipated subject non-response. A systematic sampling technique was used to recruit consenting pregnant women as they arrived for antenatal care. Each clinic day, the sampling interval was determined using the expected patient turnover based on previous records. The first patient is the one whose serial number was randomly selected using a random number table. Subsequent patients were obtained by adding the day's sampling interval to the previous patient's serial number.

**Instrument Description / Data Collection**

Informed consent was obtained from prospective respondents prior to commencement of the interviews. The content of the consent form was translated into local language (Hausa). Literate respondents indicated acceptance by signing the consent form, while non-literate participants used a thumbprint. Approval for the study was obtained from the Institutional Review Board (IRB) at Aminu Kano Teaching Hospital, Nigeria. A pre-tested structured interviewer-administered questionnaire containing both open and closed-ended questions was used. The questionnaire was adapted from the survey tools used in a previous study.[9] It was divided into four parts; the first section inquired about personal data including age, parity, occupation, ethnicity, religion and educational level. The second part elicited information about obstetric history and the current pregnancy. The third section inquired about perception of severity of labour pain on a scale from 0 to 10 (0-3=no/mild pain, 4-7= moderate pain and 8-10= severe/unbearable pain).[12] It also assessed their level of awareness, desire and preferences for different methods of pain relief in labour.

**Data Analysis**

Data was analyzed using SPSS version 16.[13] Quantitative variables were summarized using appropriate measures of location and variability. Categorical variables were presented as frequencies and percentages. Bivariate analysis involved the use of the Chi-square test for assessing the significance of associations between pain perception, awareness and preferred methods with socio-demographic variables. Crude odds ratios (OR) were obtained using Stat calc.[14] Multivariate logistic regression was used to compute adjusted ORs and to identify independent predictors of desire for obstetric analgesia. The level of significance was set at $P < 0.05$.

**RESULTS**

The age of the pregnant women ranged from 16 to 45 years, with a mean age ± standard deviation of 27.4±6.0 years. Most women were in the third decade of life. Majority of our clients were married (99%), the remaining few were either divorced or widowed. Most of the clients were Hausa or Fulani (71.8%) and belonged to the Islamic faith (80.8%). About a third of our clients (34.0%) had tertiary education, 41.0% had secondary level education while 2% had no formal education as shown in Table I. The parity of respondents ranged from zero to eleven with a mean of 2.4± 2.5. More than a quarter (n=116) of respondents were primigravidae and most of the women interviewed (74%) were in the third trimester. They were mostly home makers (39%) while their husbands were mainly civil servants (46.0%) or business men (43.7%).

Perception of Labour Pain

One hundred and sixteen (29%) of the respondents stated that they had no prior experience of labour pain and so couldn't give an accurate assessment. Nevertheless, they said they have heard from discussions with other women that it was unbearable and indescribable. Some of them said they were consoled by the fact that most women are able to survive it. Of those that have delivered at least once previously (n=284), majority (194, 68.3%) scored labour pain as severe (score of 8-10), 66(23.2%) said it was moderate (score of 4-7) while 24 (8.5%) claimed it was mild (score of 1-3). *Perceived severity of labour pain was found to be associated with age of respondents with a higher proportion of older mothers (69.4%) considering it severe compared to their younger counterparts (57.0%)* ($P<0.05$). Similarly, *nearly all Yoruba women and a high proportion of Hausa/Fulani women considered labour pain as severe compared to women from other tribes* ($P<0.05$). Furthermore, *a higher proportion of women approaching term considered labour pain as severe compared to those in the first and second trimesters* ($P<0.05$). Surprisingly *parity and educational status did not influence the perception of labour pain significantly.*

**Awareness Of Obstetric Analgesia And Source Of Information**

Only 15% (n=59) of the respondents were aware of at least one method of obstetric analgesia. The methods mentioned include Epidural (57.6%, n=34), injections (18.6%, n=11), breathing and relaxation (6.8%, n=4), social support (6.8%, n=4) and all the previous methods mentioned (10.2%, n=6). Their main sources of information were friends (62.7%, n=37), books (17.0%, n=10), health worker (13.6%, n=8) and the Internet (6.8%, n=4). When asked if they have had prior experience with any of the methods, 4 (1.0%) each said they have had breathing and relaxation and social support as means of pain relief during labour. None have been offered

regional analgesia or opioid injections during labour.

**Desire For Pain Relief During Next Labour And Preferred Method**

Majority 317 (79.3%) of respondents were desirous of pain relief during the delivery of their current pregnancy. Reasons given by the remaining 83 (20.8%) women who were not keen on pain relief include; labour pain is natural and a woman is expected to endure it to earn respect from her peers. Twelve women (15.0%) did not believe that labour pain could be relieved, four each (5.0%) were afraid of adverse effects on their health and that of their babies. Four others had no reason while 8 other respondents gave other reasons.

Among those that were desirous of pain relief (n=317), favourite choices included injections 89(28.0%), breathing and relaxation 81 (25.0%), Epidural 58(18.0%), Inhalational 36(11.0%), social support 36(11.0%) and 21 (7.0%) said they will leave the decision in the hands of their doctor. Reasons given for their choices include safety 104(35.0%), Ease of administration 78(26.0%), perceived effectiveness 70 (24.0%), relative cost 20 (7.0%), previous experience 5(2.0%) and other reasons 19(6.0%).

**Factors Associated With Awareness And Desire For Obstetric Analgesia**

On univariate analysis, Table III shows that pregnant women at the extremes of life were less likely to desire pain relief during labour compared to those in the third and fourth decades of life. These variations were not statistically significant (P=0.09). A significantly higher proportion of women belonging to the Islamic faith wanted pain relief in their next delivery compared to their Christian counterparts. (P=0.028). By ethnicity, nearly all Yoruba women (90%) in our sample were desirous of obstetric analgesia. They were followed by Hausa, Fulani and Igbo women in a decreasing order. This influence of ethnicity was statistically significant (P<0.001). Only half of the women with non-formal education wanted pain relief. The highest demand was observed among women who had primary school education. The proportion decreased slightly among women with secondary and post secondary school education. These variations by educational status was statistically significant (P=0.002). Although primigravida and grandmultiparous women (parity ≥5) were less desirous of analgesia during labour compared with primiparous (parity=1) and multiparous women (parity=2-4), these differences were however, not statistically significant. Curiously, women that were aware of some methods of obstetric analgesia were less keen on pain relief during labour compared to those that were ignorant of pain relief methods. This difference was statistically significant (P<0.001).

On multivariate logistic regression analysis, educational attainment, ethnicity and awareness of methods of obstetric analgesia remained significant predictors of desire for obstetric analgesia. Specifically, women with primary school education had more than twice the likelihood to desire for obstetric pain relief compared with those without formal education. Higher educational attainment reduced the desire significantly. Yoruba women were more than three times likely to request for pain relief during labour compared to women from other tribes. Hausa and Fulani women had nearly two and a half times the likelihood of requesting for pain relief during labour compared to women from other tribes. Furthermore, women from the Igbo tribe were twice as likely to ask for obstetric analgesia. Surprisingly however, women that were aware of methods of obstetric analgesia were less likely to request for same during labour. It is women who were ignorant of any such methods that had twice the likelihood to be desirous of obstetric analgesia as shown in Table IV.

**DISCUSSION**

This study revealed that a substantial majority (85%) of prospective parturients in a teaching hospital were ignorant of obstetric analgesia, and indeed, to some, it was an entirely new concept. Considering the fact that this level of care attracted the educated and affluent, this is worrying and one can only imagine the situation at lower levels of care. Furthermore, majority of the rural poor don't even have access to basic obstetric services, let alone analgesia. Nevertheless, of the few (15%) respondents who were aware of methods of obstetric analgesia, some demonstrated a detailed knowledge obtained from the Internet.

These results concur with those from North- Eastern Nigeria (82%)[15] but contrasts with findings from Ibadan (*27.1 %)[8] and Lagos (38.9%)[9] in the South West and Benin City (37.5%).[12] Despite the higher level of awareness in those centres, there appears to be a generally poor knowledge of obstetric analgesia across the country compared to* ***other African***

***countries. For instance, more than half of interviewed pregnant women in*** Kenya (56%) and South Africa (56.3%) [16,17] were aware of obstetric analgesia.

With respect to pain relief methods, this study also revealed that of those who were aware, epidural analgesia was the most familiar to respondents (58%), followed by systemic opioids (19%). This is at odds with findings from *Ibadan in south west Nigeria, where the most common method known was the use of systemic opioids (80%) and only 10% were aware of epidural analgesia.*[8] *This finding may however be offset by the fact that the study in Ibadan demonstrated a general knowledge of obstetric analgesia in 27% of the thousand pregnant women interviewed, as opposed to 15% among the four hundred women interviewed in this study.* Systemic opioids were also found to be the most popular method known to respondents in Kenya (65.9%)[16] as well as Karachi, Pakistan (62%) where knowledge regarding epidural analgesia was also demonstrated in only 9.1% of the respondents who did have knowledge of obstetric analgesia.[18] The reason for this discrepancy may lie in the fact that epidural analgesia has now replaced systemic opioids as the most popular method of obstetric analgesia worldwide,[19] and this study has the advantage of being more recent, hence reflecting on this shift.

Friends were the major source of information (62.7%) on obstetric analgesia, and this is similar to most findings from other studies across all regions.[16,20] Books (17%) and antenatal care (14%) were much less common sources of information, as indeed very few respondents (2%) have ever been offered obstetric analgesia which was all in the form of breathing and relaxation techniques and social support in equal proportion. The Internet was the least common source of information (7%). This is in contrast to findings in more developed nations where knowledge of obstetric analgesia is the norm, with antenatal classes and leaflets being a major source of information, as well as the Internet. This is illustrated in a study conducted in *Sydney, Australia where it was found that antenatal pain management information was accessed by 98% of women, and sources most accessed were antenatal classes (55%), multimedia (53%), and friends/relatives (46%).*[21] *Differences in access and information technology skills between our respondents and women in Australia can partly explain this.*

With friends being a major source of information regarding obstetric analgesia, the validity of information obtained by respondents in this study remains as yet to be ascertained, as accounts may be coloured by individual perceptions and experiences as well as hearsay. This could be the explanation for our surprising finding that women that were aware of methods of obstetric analgesia were less likely to request for same. Exaggeration of side effects of obstetric analgesia for mother and baby may also be responsible for this.

This study also revealed that while a significant majority of respondents considered labour pain to be severe, even more think that the pain of labour should be relieved and most would accept pain relief if offered in the current delivery. A few considered labour pain to be mild to moderate, while primigravidae could not say, being pregnant for the first time. These findings are also very close to what obtains in most studies across the country where majority of respondents are found to actually desire some form of obstetric analgesia.[9,10] Furthermore, attitude towards obstetric analgesia can be said to be becoming increasingly positive, as results from this study concurs with more recent studies that have been conducted in the country,[12,22] which show that an increasing number of women desire pain relief during labour in recent times. *In 2003, studies in Ibadan and Calabar found that 57.6% and 51.7% of women accepted methods of obstetric analgesia respectively.*[8,23] *A few years later these figures are seen to rise, as a study conducted in Lagos in 2005 revealed an acceptance rate of 65.3%*[9]*, another in Benin reports it at 85.1% in 2006,*[12] *and most recently in Maiduguri in 2009 at 78.8%.*[15] *Putting our findings in context therefore, an acceptance rate of 79.3% puts us at par with the most recent figures from the North-east. This only buttresses the fact that cultures are fairly similar across northern Nigeria.*

*The general attitude towards obstetric analgesia is becoming increasingly positive worldwide, as "Pain-free labour" has become a popular concept. It is thus not surprising that such trends be reflected in this study. Be that as it may, there still remain those who hold a contrary view.* Of the few respondents (21%) who refused pain relief, the most popular reasons given were that the pain of labour is natural (65%), the belief that labour pain cannot be relieved (15%), and the belief that pain relief methods are harmful to mother or baby (10%). These findings are almost an exact replica of those from other parts of the country.[12,15] Similar reasons are also found to motivate non-acceptance of

obstetric analgesia in other parts of the developing world as well, for while a study in Togo revealed that refusal was motivated by *a religious belief that painful delivery was in the natural order*[24], *another in* South Africa revealed that of the respondents who would not accept pain relief, most (*83.4%) expressed little or no confidence in labour pain relief.*[17] *Furthermore, in a study in Pakistan, refusal of Epidural analgesia in particular was motivated by a fear of side effects, as most respondents were aware of epidural analgesia.* These anxieties need to be addressed, correct information provided and misconceptions discountenanced before the commencement of obstetric analgesia services at this and similar centres.

*Desire for obstetric analgesia in this study was found to be influenced by several factors. As perceived severity of labour pain directly informs the need for analgesia, factors influencing pain severity were assessed with some interesting results. Perceived severity of labour pain was found to be associated with age of respondents, tribe and whether or not respondents were at term but not with parity and educational status.* Respondents that were close to term considered labour pain to be more severe than those who were not. This might be as a result of increasing anxiety as their delivery dates approached. Also, the absence of an association between parity and pain severity is in sharp contrast to what was observed i*n Enugu where a significant correlation was found between educational level, parity and parturients' pain scores. Primigravidae were found to have the highest perceived mean pain score compared with multiparas and grandmultiparas.*

Unlike age and parity, educational status of respondents was found to be a significant predictor of desire for obstetric analgesia. This was also the case in Lagos, south west Nigeria where it was found that there was a significant association between educational status, knowledge and attitude towards obstetric analgesia.[9] This may be explained by the fact that a higher educational status affords the opportunity to come in contact with, read and possibly understand better, additional sources of information on obstetric analgesia such as leaflets, books and the Internet which their less educated counterparts may not.

In a similar fashion, desire for pain relief was found to be associated with the tribe of respondents. In addition to this, awareness of obstetric analgesia was also found to be associated with desire for pain relief, though not as would be expected. Ironically, those that were aware of methods were less likely to desire pain relief. Here again the issue of the validity of knowledge accessed by respondents comes into question, as this could be a major factor mitigating against acceptance of obstetric analgesia by these respondents. In addition, an in-depth knowledge of methods of obstetric analgesia implies knowledge of side effects which may also be responsible for making these respondents wary of accepting analgesia as alluded to earlier.

*One would expect that epidural analgesia being the method most known to respondents in this study, would be* the most preferred method as well. This is however not the case as this study revealed that systemic opioids (injections) were the most preferred form of analgesia among respondents (28%) followed by breathing and relaxation techniques (25%) and epidural analgesia (18%). Inhalational forms and social support in labour were less popular (11% each), and a few of the respondents preferred to leave the choice to the doctor (7%). This is in contrast to findings in Calabar, Nigeria, where studies *indicated that epidural analgesia would be a popular method if made available.*[23] *Here however, the study was carried out with a view to assessing the acceptability of epidural analgesia in particular. It was found that a fair percentage of respondents (51.7%) would accept epidural analgesia for subsequent deliveries if offered.*

Preference for opioid analgesics would be expected in settings where knowledge of epidural analgesia is generally low, and services not widely available as illustrated in a study carried out in Pakistan where it was found that *62.5% of respondents had knowledge about injections while few (9.1%) women had knowledge about epidural analgesia and 60.3% had chosen the injections as preferred method during next labour.*[18] In the developed world however, several studies indicate that preferences have shifted from systemic opioids to the use of epidural analgesia over time.[25,26]

Perhaps to explain systemic opioids being the most preferred method of analgesia among respondents are the reasons given for the choice of pain relief method. Safety (35%), ease (26%), and effectiveness (24%) were the most popular reasons for choosing the preferred method of analgesia in that order, while cost (7%) and previous use (2%) played a much lesser role. Most respondents find injections to be

familiar, and may thus perceive it to be safer and easier than other pharmacological methods, which may also explain why breathing and relaxation techniques are preferred to epidural analgesia as well.

This study had several limitations; being a facility based study, the effect of selection bias limits the generalizability of our findings to the whole populace. Pregnant women utilizing our centre are more likely to be educated, of higher socioeconomic status than the typical pregnant woman in the community. Being a teaching hospital, our centre is also likely to attract women with problems and inexperienced primigravidae as seen from the obstetric characteristics of the respondents. Therefore, the perceptions of labour pain, awareness of obstetric analgesia and their predictors are valid for women booking at our centre and similar tertiary hospitals in the region. Unbooked women or the majority that utilize lower levels of care are more likely to be conservative, culturally adherent and less well educated. The inclusion of key questions related to obstetric analgesia in Demographic and Health Surveys (DHS) will obtain more representative information. We therefore strongly suggest the study of a sub-sample of pregnant women during subsequent DHS to obtain more accurate perceptions of labour pain, awareness and desire for obstetric analgesia among pregnant women across all social strata.

In conclusion, we found a high level of ignorance about obstetric analgesia, paradoxically there was a high demand for it as most respondents were curious about pain relief methods and would accept it if offered. There is however some variation in the methods of pain relief preferred. Opioid analgesics were favoured among respondents than epidural analgesia, and quite a number preferred non-pharmacological methods. Educational status, awareness and ethnicity influenced desire for pain relief, albeit to varying degrees. Despite these differences, the fact still remains that childbirth is a major life event, and women have the right to choose between experiencing natural birth process for the culturally inclined or 'painless childbirth' for the modern woman. This can only be assured when women are involved in the decision making process regarding all aspects of childbirth, including options for pain management. Strategies for such reforms should include; a needs assessment among stakeholders; provision of information, education and communication for parturients while dispelling rumours; multidisciplinary team formation and training, provision of equipment/supplies and provision of a wide range of choices of methods of obstetric analgesia in this and similar settings.

## REFERENCES

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Table I: Socio-demographic characteristics of Antenatal clients at Aminu Kano Teaching Hospital Kano, Nigeria, 2011

| Characteristics | Frequency No. (%) |
|---|---|
| **Age group** | |
| <20 | 52(13.0) |
| 20-24 | 120(30.0) |
| 25-29 | 117(29.3) |
| =30 | 111(27.8) |
| Total | 400(100.0 ) |
| **Education** | |
| Non-Formal | 8(2.0) |
| Primary | 88(22.0) |
| Secondary | 166(41.5) |
| Post-secondary | 138(34.5) |
| Total | 400(100.0) |
| **Religion** | |
| Muslim | 323(80.8) |
| Christianity | 77(19.2) |
| Total | 400(100.0) |
| **Ethnicity** | |
| Hausa | 252(63.0) |
| Fulani | 35(8.8) |
| Igbo | 47(11.8) |
| Yoruba | 20(5.0) |
| Others | 46(11.5) |
| Total | 400(100.0) |

Table II: Obstetric characteristics of respondents in AKTH, 2011

| *Characteristics* | *No.(%)* |
|---|---|
| **Gravidity** | |
| 1 | 116(29.0) |
| 2-4 | 151(3 7.8) |
| =5 | 249(62.3) |
| Total | 400(100.0) |
| **Parity** | |
| 0 | 116(2 9.0) |
| 1 | 89(22.2) |
| 2-4 | 120(30.0) |
| =5 | 75(18.8) |
| Total | 400(100.0) |
| **Gestational age (weeks)** | |
| =12 | 8(2.0) |
| 12-27 | 96(24. 0) |
| 28-40 | 296(74.0) |
| Total | 400(100.0) |

| Characteristics | Desirous of Pain relief during labour Yes | No | Total | $\chi^2$ | P-value |
|---|---|---|---|---|---|
| **Age group** | | | | | |
| <20 | 8(66.7) | 4(33.3) | 12(100.0) | | |
| 20-24 | 59(83.1) | 12(16.9) | 71(100.0) | | |
| 25-29 | 85(77.9) | 24(22.1) | 109(100.0) | | |
| 30-34 | 86(85.2) | 15(14.9) | 101(100.0) | | |
| 35-39 | 59(78.7) | 16(21.3) | 75(100.0) | | |
| =40 | 20(62.5) | 12(37.5) | 32(100.0) | | |
| Total | 317(79.2) | 83(20.8) | 400(100.0) | 9.51 | 0.09 |
| **Religion** | | | | | |
| Muslim | 263(81.4) | 60(18.6) | 323(100.0) | | |
| Christian | 54(70.1) | 23(29.9) | 77(100.0) | | |
| Total | 317(79.2) | 83(20.8) | 400(100.0) | 4.81 | 0.028 |
| **Ethnicity** | | | | | |
| Hausa | 220(87.3) | 32(12.7) | 252(100.0) | | |
| Fulani | 27(77.1) | 8(22.9) | 35(100.0) | | |
| Igbo | 36(76.6) | 11(23.4) | 47(100.0) | | |
| Yoruba | 18(90.0) | 2(10.0) | 20(100.0) | | |
| Others | 16(34.8) | 30(65.2) | 46(100.0) | | |
| Total | 317(79.2) | 83(20.8) | 4 00(100.0) | 22.1 | <0.0001 |
| **Education** | | | | | |
| Non-Formal | 4(50.0) | 4(50.0) | 8(100.0) | | |
| Primary | 76(86.4) | 12(13.6) | 88(100.0) | | |
| Secondary | 139(83.7) | 27(16.3) | 166(100.0) | | |
| Post-secondary | 98(71.0) | 40(28.9) | 138(100.0) | 14.6 | 0.002 |
| Total | 317(79.2) | 83(20.8) | 400(100.0) | | |
| **Parity** | | | | | |
| 0 | 89(76.7) | 27(23.3) | 116(100.0) | | |
| 1 | 69(77.5) | 20(22.5) | 89(100.0) | | |
| 2-4 | 104(86.7) | 16(13.3) | 120(100.0) | | |
| =5 | 55(73.3) | 20(26.7) | 75(100.0) | | |
| Total | 317(79.2) | 83(20.8) | 400(100.0) | 6.22 | P=0.10 |
| **Awareness of obstetric analgesia** | | | | | |
| Aware | 27(45.8) | 32(54.2) | 59(100.0) | | |
| Not aware | 290(85.0) | 51(15.0) | 341(100.0) | | |

Table IV: Predictors of desire for pain relief during labour among antenatal clients, AKTH, Kano, Nigeria, 2011

| Predictor | Crude OR | Adjusted OR (95%CI) | P value |
|---|---|---|---|
| **Education** | | | |
| Non-Formal* | 1.0 | | |
| Primary | 6.33(1.13-36.33) | 2.84(1.12-7.20) | 0.028 |
| Secondary | 5.15(1.00-26.56) | 2.05(0.71-5.90) | 0.18 |
| Post-secondary | 2.45(0.48-12.41) | 1.94(0.62-4.31) | 0.13 |
| **Ethnicity** | | | |
| Hausa/Fulani | 6.33(2.12-19.53) | 2.42(1.05-5.24) | <0.01 |
| Yoruba | 16.9 (3.10-120.8) | 3.81(1.49-9.10) | <0.01 |
| Igbo | 6.14 (2.30-16.90) | 2.17(1.59-5.04) | <0.01 |
| Others* | 1.0 | | |
| **Religion** | | | |
| Christian* | 1.0 | | |
| Muslim | 1.87 (1.02-3.40) | 1.27(0.55-2.97) | 0.58 |
| **Awareness of obstetric analgesia** | | | |
| Aware* | 1.0 | | |
| Not Aware | 6.74(3.58-12.73) | 2.13(1.4-5.52) | <0.01 |

*referent category


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