



## **Labour Pain Perception: Experiences of Postnatal Women in Niger Delta Region of Nigeria**

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### **ABSTRACT**

Labour pain experience has posed a lot of worries for women all over the world. This study assessed the labour pain perception and identified associated factors in three health centers in a Niger Delta region of Nigeria. A descriptive cross sectional research design was adopted to obtain data from 249 conveniently selected sample of women who attended six weeks postnatal check-up. A validated questionnaire comprising of a visual analogue scale and socio-demographic data section was used to obtain information from the respondents. Data was analyzed using descriptive and inferential statistics at 95% confidence interval. Findings showed that majority of the respondents were between were 25 – 34 years 161(70.3%) and married 195(85.2%), 192(83.8%) were Christians, 116(50.7%) civil servants and had tertiary education 143(62.4%) while 126(55.0%) had 2 – 3 children. Also, 25(10.9%) of the respondents claimed that they experienced mild pain, 78(34.1%) experienced moderate pain while more than half 126 (55.0%) experienced severe pain during childbirth. Age, occupation and religion had a significant association with labour pain perception ( $p < 0.05$ ). Conclusively, respondents experienced severe pain which was significantly associated with their age, occupation and religion. It is recommended that further studies be carried out to explore how age affects pain experience in labour.

**Keywords:** Labour, Pain, Perception, Experiences, Postnatal, Women

### **INTRODUCTION**

Labour exposes a woman to one of the most severe forms of pain reported (Akadri et al., 2018). The highly subjective nature of this pain as portrayed in the definition of pain as been “whatever the experiencing person says it is and existing whenever he says it does” (McCaffery et al., 2018) necessitate an evidenced based approach in its management. The International Association for the Study of Pain (IASP) likewise defined pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage” (Cohen, et. al., 2018). The most important implication of this definition is that some clients are reluctant to disclose the presence of pain unless prompted (Berman et al., 2012). As such health professionals especially nurses and midwives are expected to be up-to-date in pain assessment and management. Labour is the process of delivering a baby and the placenta, membranes, and umbilical cord from the uterus to the vagina to the outside world” (Shiel, 2018). Labour experience from the onset of the world has been idolized as a very painful experience of which a labour free of pain can be termed and celebrated as a miracle. Olza et al., (2018) opined that childbirth is a profound psychological experience that has a physical, psychological, social and existential impact both in the short and long term leaving the women with lifelong vivid memories. The effects of a birth experience can be positive and empowering, or negative and traumatizing and on the extreme have made some women vow not to have another child. Therefore, a mother's perception of labour pain is an indication of how she feels she had coped with pain during labour. Researches have highlighted this area in varying environment using different methods for assessing pain experience. Using the Visual Analogue Scale

(VAS), Akadri et al., (2018) reported that the mean pain perception of the women VAS was 7.0 with range of 1.2-10.0 as 66(50%) of the women rated labour pain to be severe (VAS > 7.1). Arinze, et. al., (2018) in Enugu reported that most respondents (77.5%) rated labour pain as 'very severe with the mean age of 30.6 (SD 6.9) and ranged between 18 and 42 years. All were Christian and (70%) had tertiary education. In addition, Unamba, et. al, (2019) in South South Nigeria found that majority (75%) of the respondents perceived labour pains as severe, 23% perceived it as moderate, while 1.7% perceived labour pains as mild. Using the verbal rating scale, Kuti & Faponle (2006) in South Western region of Nigeria reported that the majority (68.3%) of women described labour pain as severe with only 5.3% describing it as mild. In the report of Shrestha, et. al, (2013), the intensity of labour pain was graded as severe by 32%, moderate by 57% and mild by 11% of parturients. Labour pain perception varies between individual women and can be influenced by interactions between physiologic, psychosocial and environmental factors (Akadri et al., 2018). These factors have been explored by several studies. Akadri et al., (2018) reported that occupation, Body Mass Index (BMI), gestational age and baby's birth weight were significant mediating variables in women's experience of labour pain. In contrast, Kuti & Faponle (2006) noted that perception of pain was not influenced by age, parity and educational level. Similarly, Shrestha, et. al, (2013) reported that almost half of the women in the age group of  $\leq 19$  years described labor pain as severe as compared to women between 20-34 years (30.4%) and  $\geq 35$  years (20%). Among the nulliparous women, 37% described it as severe compared to only 20.7% in  $\geq$  Para1. In those with  $\geq$  higher secondary level education, 35.9% described labor pain as severe as compared to those women who had education of  $\leq$  primary level (26.9%) and up to secondary level (27.1%). Concluding that adolescents, nullipara, patients with higher education and those in advanced labor were more likely to perceive labor pain of higher intensity. Furthermore, women's experienced intensity of labour pain can be influenced either by cultural beliefs, religious beliefs, educational background, age, gender or even the expected outcome of the pain (Ali-Beigi et al., 2010). The physiological origin of labor pain is uterus contractions or cervical dilation and psychological factors like stress, anxiety, and fear were shown to be associated with labor pain (Siyoun et al., 2019). A mother's perception of labour pain is an indication of how she feels she had coped with pain during labour and this is strongly influenced by her socio-cultural and environmental background. It is thus expedient to ascertain the perception of labour pain by these women in a particular cultural environment so as to guide decision on most appropriate pain management strategy. This study therefore assessed the intensity of labour pain experienced by postnatal women and identified factors associated with these experiences in selected Primary Health Centers (PHCs) in Rivers state, Nigeria.

## MATERIALS AND METHODS

This study was carried out in three (3) selected Primary Health Care centers (PHCs) in Obio-Akpor Local Government Area, Rivers State, Nigeria. These PHCs enjoy high patronage from the residents of this most populous and one of the richest local government in the Niger Delta region of Nigeria. The major occupation of the indigenous residents are farming, fishing, and trading. The descriptive cross sectional study design was employed to collect data from 249 conveniently selected postnatal clinic attendees from these PHCs. These included women who had normal labour and delivery and were clinically stable at the time of this postnatal clinic visit. Women who had stillbirth, neonatal death or premature delivery were excluded from the study. The sample size was calculated using Lesile Fishers formula for estimating single proportion  $n = Z^2pq/d^2$ , where n is the required sample size; Z national deviation at desired 95% confidence level of 1.96; p is population proportion with desired characteristics reports as 18% (Vermelis, Wassen, Fiddlers and Nijhuis, 2010); q is population proportion without the desired characteristics  $Q = I-P$  and d is degree of precision (0.05). Then it was adjusted for attrition rate of 10%. A self-structured validated questionnaire comprising of a Visual Analogue Scale (VAS) and section on socio-demographic data was used to obtain information from the respondents. The data collected from the questionnaire was coded and entered directly into the Statistical Package for Social Sciences (SPSS) version 25.0. Categorical data was summarized using descriptive statistics of frequencies, percentages (%) and mean with results presented on tables and pie chart. The intensity of labor pain was categorized as mild when the VAS score was 0.1-3.9, moderate when the score was 4-6.9 and severe when the score was 7-10. Chi-square ( $X^2$ ) test analysis was performed to test for association between two or more categorical

variables. An observation was said to be statistically significant if the p-value was less than 0.05 at a confidence interval of 95%. Ethical approval was obtained from the Ethical Review Board of University of Port Harcourt and Primary Health Care Management Board, Rivers state, Nigeria. Confidentiality, anonymity and privacy were assured and maintained. The research was conducted in accordance with the World medical Association Declaration of Helsinki. All study participants were given full information on all aspects of the study and then asked to sign an informed consent form.

**RESULTS**

Out of the 249 questionnaires distributed, 229 were retrieved and duly completed giving a response rate of 92%. The table 1 shows the socio-demographic characteristics of the respondents. The result shows that 22(9.6%) of the respondents were between 20-24 years, 86(37.5%) were 25-29 years, 75(32.8%) 30-34 years, 25(10.9%) 35-39 years while 21(9.2%) were 40 years and above. The mean age of the respondents was 30.7 years (SD = 6.0) with a range of 20 - 54 years. Majority 192(83.8%) were Christians, 31(13.5%) Muslims while 6(2.6%) were traditionalists. With reference to marital status, 24(10.5%) were singles, 195(85.2%) married, 3(1.3%) widows and 7(3.1%) were divorced. In addition, 16(7.0%) had no formal education, 19(8.3%) primary education, 51(22.3%) secondary education while more of them 143(62.4%) had tertiary education. More than half 116(50.7%) were civil servants, 76(33.2%) business women, 8(3.5%) farmers and 29(12.7%) were housewives. Finally, 41(17.9%) of the respondents had a child, 66(28.8%) had 2 children, 60(26.2%) 3 children, 38(16.6%) 4 children while 24(10.5%) had 5 children and above. The mean parity was 2.9 (SD = 1.3) with range of 1 – 9.

**Table 1: Respondents’ Socio-demographic data** **n = 229**

| <b>Variables</b>   | <b>Frequency</b> | <b>Percentage</b> |
|--|------------------|-------------------|
| <b>Age in years</b> (mean = 30.7 SD = 6.0 Range 20 – 54) |                  |                   |
| 20 – 24  | 22               | 9.6               |
| 25 – 29  | 86               | 37.5              |
| 30 – 34  | 75               | 32.8              |
| 35 – 39  | 25               | 10.9              |
| 40 above   | 21               | 9.2               |
| <b>Religion</b>  |                  |                   |
| Christian  | 192              | 83.9              |
| Muslim   | 31               | 13.5              |
| Traditional  | 6                | 2.6               |
| <b>Marital status</b>                                    |                  |                   |
| Single   | 24               | 10.5              |
| Married  | 195              | 85.1              |
| Widowed  | 3                | 1.3               |
| Divorced   | 7                | 3.1               |
| <b>Educational background</b>                            |                  |                   |
| No formal Education                                      | 16               | 7.0               |
| Primary  | 19               | 8.3               |
| Secondary  | 51               | 22.3              |
| Tertiary   | 143              | 62.4              |
| <b>Occupation</b>  |                  |                   |
| Civil servant  | 116              | 50.6              |
| Business   | 76               | 33.2              |
| Farmer   | 8                | 3.5               |
| House wife   | 29               | 12.7              |
| <b>Parity</b> (mean = 2.9 SD = 1.3 Range 1 – 9)          |                  |                   |
| 1 child  | 41               | 17.9              |
| 2 children   | 66               | 28.8              |
| 3 children   | 60               | 26.2              |
| 4 children   | 38               | 16.6              |
| 5 or more children                                       | 24               | 10.5              |

SD = Standard deviation

Table 2 shows the description the respondents attached to the pain they experienced during labour. Findings shows that majority described the pain as severely distressing 114(49.8%), severely annoying 123(53.7%), severely uncomfortable 127(55.4%), severely dreadful 127(55.4%), severely horrible 131(57.2%) and severely agonizing 135(59.0%). Figure 1 shows that on the average, 25(10.9%) of the respondents claimed that they experienced mild pain, 78(34.1%) experienced moderate pain while more than half 126 (55.0%) experienced severe pain during childbirth.

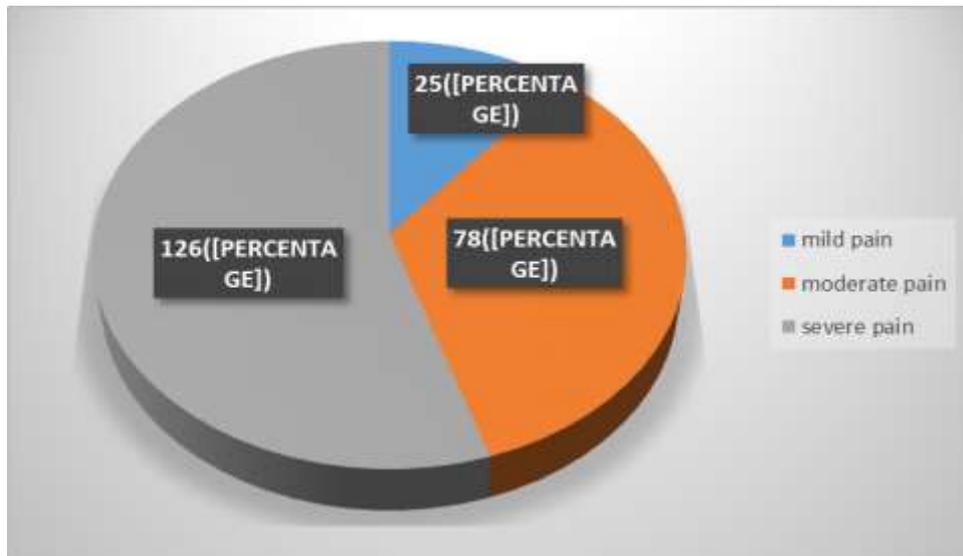
**Table 2: Labour Pain Perception**

**n = 229**

| Experienced Labour pain description | Intensity of labour pain |             |           |             |            |             |
|-------------------------------------|--------------------------|-------------|-----------|-------------|------------|-------------|
|                                     | Mild                     | %           | Moderate  | %           | Severe     | %           |
| Distressing                         | 42                       | 18.3        | 73        | 31.9        | 114        | 49.8        |
| Annoying                            | 21                       | 9.2         | 85        | 37.1        | 123        | 53.7        |
| Uncomfortable                       | 15                       | 6.6         | 87        | 38.0        | 127        | 55.4        |
| Dreadful                            | 15                       | 6.6         | 87        | 38.0        | 127        | 55.4        |
| Horrible                            | 25                       | 10.9        | 73        | 31.9        | 131        | 57.2        |
| Agonizing                           | 23                       | 10.0        | 71        | 31.0        | 135        | 59.0        |
| <b>Mean</b>                         | <b>25</b>                | <b>10.9</b> | <b>78</b> | <b>34.1</b> | <b>126</b> | <b>55.0</b> |

**Labour pain perception score** (mean = 6.78, Standard Deviation = 2.39, Range = 1 – 10)

% = percentage



**Figure 1: Intensity of labour pain experienced by respondents n = 229**

**Table 3: Factors versus Labour Pain Perception during childbirth** n = 229

| Variables                 | Intensity of labour pain experienced |                |              | Total     | Df | X <sup>2</sup> -value | P-values |
|---------------------------|--------------------------------------|----------------|--------------|-----------|----|-----------------------|----------|
|                           | Mild (F %)                           | Moderate (F %) | Severe (F %) |           |    |                       |          |
| <b>Age (in years)</b>     |                                      |                |              |           |    |                       |          |
| 20 – 24                   | 4(1.7)                               | 12(5.2)        | 6(2.6)       | 22(9.6)   |    |                       |          |
| 25 – 29                   | 3(1.3)                               | 35(15.3)       | 48(21.0)     | 86(37.6)  |    |                       |          |
| 30 – 34                   | 8(3.5)                               | 18(7.9)        | 49(21.4)     | 75(32.8)  | 8  | 26.304                | 0.001*   |
| 35 – 39                   | 4(1.7)                               | 5(2.2)         | 16(7.0)      | 25(10.9)  |    |                       |          |
| 40 and above              | 6(2.6)                               | 8(3.5)         | 7(3.1)       | 21(9.2)   |    |                       |          |
| Total                     | 25(10.9)                             | 78(34.1)       | 126(55.0)    | 229(100)  |    |                       |          |
| <b>Parity</b>             |                                      |                |              |           |    |                       |          |
| 1                         | 7(3.1)                               | 13(5.7)        | 21(9.2)      | 41(17.9)  |    |                       |          |
| 2                         | 4(1.7)                               | 21(9.2)        | 41(17.9)     | 66(28.8)  |    |                       |          |
| 3                         | 4(1.7)                               | 26(11.4)       | 30(13.1)     | 60(26.2)  | 8  | 21.198                | 0.097    |
| 4                         | 6(2.6)                               | 14(6.1)        | 18(7.9)      | 38(16.6)  |    |                       |          |
| ≥5                        | 4(1.7)                               | 4(1.7)         | 16(7.0)      | 24(10.5)  |    |                       |          |
| Total                     | 25(10.9)                             | 78(34.1)       | 126(55.0)    | 229(100)  |    |                       |          |
| <b>Occupation</b>         |                                      |                |              |           |    |                       |          |
| Civil servant             | 21(9.2)                              | 36(15.7)       | 59(25.8)     | 116(50.7) |    |                       |          |
| Business                  | 3(1.3)                               | 22(9.6)        | 51(22.3)     | 76(33.2)  |    |                       |          |
| Farmer                    | 0(0.0)                               | 1(0.4)         | 7(3.1)       | 8(3.5)    | 6  | 28.584                | 0.000*   |
| Housewife                 | 1(0.4)                               | 19(8.3)        | 9(3.9)       | 29(12.7)  |    |                       |          |
| Total                     | 25(10.9)                             | 78(34.1)       | 126(55.0)    | 229(100)  |    |                       |          |
| <b>Educational status</b> |                                      |                |              |           |    |                       |          |
| No formal                 | 1(0.4)                               | 1(1.3)         | 12(5.2)      | 16(7.0)   |    |                       |          |
| Primary                   | 0(0.0)                               | 11(4.8)        | 8(3.5)       | 19(8.3)   |    |                       |          |
| Secondary                 | 3(1.3)                               | 16(7.0)        | 32(14.0)     | 51(22.3)  | 6  | 12.394                | 0.054    |
| Tertiary                  | 21(9.2)                              | 48(21.0)       | 74(32.3)     | 143(62.4) |    |                       |          |
| Total                     | 25(10.9)                             | 78(34.1)       | 126(55.0)    | 229(100)  |    |                       |          |
| <b>Religion</b>           |                                      |                |              |           |    |                       |          |
| Christian                 | 25(10.9)                             | 56(24.5)       | 111(48.5)    | 192(83.3) |    |                       |          |
| Muslim                    | 0(0.0)                               | 21(9.2)        | 10(4.4)      | 31(13.5)  |    |                       |          |
| Traditionalist            | 0(0.0)                               | 1(0.4)         | 5(2.2)       | 6(2.6)    | 4  | 21.091                | 0.000*   |
| Total                     | 25(10.9)                             | 78(34.1)       | 126(55.0)    | 229(100)  |    |                       |          |
| <b>Marital status</b>     |                                      |                |              |           |    |                       |          |
| Single                    | 1(0.4)                               | 4(1.7)         | 19(8.3)      | 24(10.5)  |    |                       |          |
| Married                   | 24(10.5)                             | 71(31.0)       | 100(43.7)    | 195(85.2) |    |                       |          |
| Widow                     | 0(0.0)                               | 1(0.4)         | 2(0.9)       | 3(1.3)    | 6  | 8.404                 | 0.210    |
| Divorced                  | 0(0.0)                               | 2(0.9)         | 5(2.2)       | 7(3.1)    |    |                       |          |
| Total                     | 25(10.9)                             | 78(34.1)       | 126(55.0)    | 229(100)  |    |                       |          |

\*Significant, p<0.05

F = frequency

% = percentage

**Factors Associated with Labour Pain Perception**

The association between some respondents’ characteristics and labour pain perception is shown on table 3. There was no statistically significant association between labour pain perception and parity, marital and educational status. However, there was a statistically significant association between age (p = 0.001), occupation (p = 0.000), religion (p = 0.000) and labour pain perception. Almost half of the women in the age group of ≤ 25 – 39years described labor pain as severe as compared to women between 20-24years (2.6%) and ≥40years (3.1%). Among the nulliparous women, only 9.2% described it as severe compared to majority 49.9% in ≥ Para1. Severe pain was reported more among civil servant and business women when compared with their counterparts who were farmers and housewives. In those with ≥ secondary level education, 36.3% described labor pain as severe as compared to those women who had education of ≤ primary level (8.7%). Christians (48.5%) reported severe pain when compared with Muslims (4.4%) and Traditionalists (2.2%). More of the married women (43.7%) perceived pain as severe when compared with the singles (8.3%), widows (0.9%) and the divorced (2.2%). Conclusively, Christians married women with increasing age, parity and higher education were more likely to perceive labor pain as severe.

## DISCUSSION

Labour pain perception is the highly subjective woman's interpretation of the noxious sensory stimuli transmitted during labour. Owing to this, it was a bit difficult to assess labour pain perception with Visual Analogue Scale only as such the labour pain perception assessed in this study should be taken with a grain of salt. Nevertheless, our study showed that a significant number of women reported moderate to severe pain during childbirth. Almost all the women rated labour pain as either moderate or severe with 55% perceiving labour pain as severe. This is in congruent with findings from studies carried out in Nigeria where in south west 50 – 68.3% (Kuti & Faponle, 2006; Akadri et al., 2018), in south east 77.5% (Arinze, et. al., (2018), in south south 75% (Unamba, et. al, (2019). Our study finding is also similar to report outside Nigeria that 68% of the women rate pain perception as severe (Abushaikha & Oweis, 2005; Shrestha, et. al, 2013). It can be said that labour pain intensity is no respecter of country, culture, environment and tribe. As such health care professionals especially midwives should intensify effort to make women experience less pain during childbirth making it a more pleasurable experience for the women ensuring their good quality of life postpartum. In addition, effective labour pain relief may motivate more women to have hospital deliveries thereby avoiding complications that usually arise when women have their deliveries in unorthodox places (Akadri et al., 2018). Women in this study reported high levels of pain intensity during labour ( $M = 6.8$ ,  $SD = 2.4$ ). Though this lower than the report of Abushaikha & Oweis, (2005) where intensity was noted as ( $M = 8.8$ ,  $SD = 1.4$ ). The parity, marital and educational status of the postnatal women did not have any significant influence on labour pain perception. Not many studies x-rayed the association between parity, educational status and labour pain perception. Our study finding showed that the parity and educational status of the women were not significantly associated with labour pain perception affirming the reports of other authors (Abushaikha & Oweis, 2005; Kuti & Faponle, 2006; Shrestha, et. al., 2013). Although, Ali-Beigi, et al., (2010) reported that labour pain perception was influenced by educational status. This study finding was not anticipated by the authors as we expected that since the women had a previous labour experience, their interpretation of the labour pain would have been influenced. Many of the women had three children and above while some had as much as nine children. Furthermore, our study showed that a significant association exists between age, occupation, religion and labour pain perception. The significant association noted between occupation and labour pain perception as buttressed by the result findings that severe pain was reported more among civil servant and business women when compared with their counterparts who were farmers and housewives, may not be unconnected to the common reasoning that farmers would have built more resilience against painful processes as compared with civil servants or business women. Our study report agrees with the finding of Akadri et al., (2018) that occupation is a significant mediating variable in women's experience of labour pain. Christians had higher mean pain scores than Muslims or Traditionalists and this was also statistically significant. Our finding is in congruent with the report Ali-Beigi, et al., (2010) and Akadiri et al, (2018). This finding may not be unconnected with the religiously or culturally learned values that influence expression of labour pain. These accepted values may suggest that women should go through labour in a stoical manner. This is critical and should always be in the mind of the health care team so as avoid delays in diagnosis of intrapartum complications such as uterine rupture which also present with abdominal pain. The association of age and labour pain perception varies across different authors. Kuti & Faponle (2006) noted that perception of labour pain was not influenced by age while Ali-Beigi, et al., (2010) affirmed to the contrary. Our study finding supports the later authors that age has significant association with labour pain perception. Women should be encouraged to plan and have their deliveries at good age which is likely to help cope with the labour process.

## CONCLUSION

Women in this study experienced severe labour pain which was statistically significant with their age, occupation and religion. The author acknowledges the postnatal women who gave their time and honest report to making this study a success.

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