

# QUALITY OF INTRA-PARTUM CARE RECEIVED BY PARTURIENT DURING ACTIVE PHASE OF FIRST STAGE OF LABOUR AT UNIVERSITY COLLEGE HOSPITAL, IBADAN, NIGERIA

## ABSTRACT

**Aim:** To examine intra-partum care received by parturient during active phase of first stage of labour.

**Study Design:** A descriptive cross-sectional prospective design

**Place and Duration of Study:** Labour ward complex, University College Hospital (UCH), Ibadan Nigeria between June 2013 and September, 2013.

**Methodology:** Three hundred and forty-five parturient who had spontaneous vaginal deliveries (SVDs) were included in the study. Pre-tested self-administered questionnaire was used to assess level of psycho-social support received by parturient during active phase of first stage of labour. Labour records of parturient during first stage of labour were also reviewed using a checklist to obtain data on hourly blood pressure (BP) monitoring, hourly pulse rate (PR) monitoring, four-hourly vaginal examination (VE), half-hourly fetal heart rate (FHR) monitoring and proper documentation of progress of active phase of first stage of labour on partogram of parturient. Chi-Square test was used to determine relationships between variables. Level of Significance was set at .05.

**Results:** Three hundred and forty-five parturient participated in the study with 100% response rate. Their mean age was  $30.4 \pm 3.8$  years. 41.4% and 41.2% parturient had BP and PR monitored hourly respectively. While, 85.2% had VE conducted on them four-hourly and 61.4% had FHR monitored half-hourly. Progress report of active phase of first stage of labour was documented on the partogram in 34.8% of parturient. Most (89%) of the respondents received optimal psychosocial support during active phase of first stage of labour.

**Conclusion:** In overall quality of intra-partum care was optimal during active phase of first stage of labour at UCH, Ibadan, Nigeria. Quality intra-partum care will foster reduction in maternal and fetal morbidity and mortality rate. However, improving the health services in the areas of deficiency revealed by this study will help providing excellent intra-partum care.

**Keywords:** Intra-partum care, Parturient, Psychosocial support, Partogram.

## 1. INTRODUCTION

Intra-partum care refers to the medical and nursing care given to a pregnant woman and her family during labour and after delivery.<sup>1</sup> Intra-partum period extends from the beginning of contractions that causes cervical dilatation to the first 1 to 4 hours after delivery of the newborn and placenta.<sup>2</sup> Childbirth is a time of greatest risk for maternal deaths with at least 42% of the annual estimated 352,000 maternal deaths occurring during labour and the first two days after birth hence, childbirth should be handled by competent personnel who are skilled in all areas related to child delivery.<sup>3</sup> Outcome for mother and child is strongly related to the access of intra-partum care as high-quality intra-partum care is an effective strategy in reducing maternal mortality and morbidity associated with labour and childbirth.<sup>4</sup> The overall aim of caring for women during labour is to engender a positive experience for the woman and her family, while maintaining their physical and emotional health, preventing complications and responding to emergencies. In order to successfully achieve this aim, good intra-partum care by those involved in the care of women during the process of childbearing is crucial.<sup>5</sup>

A review of labour records of 338 parturient at 12 selected government secondary health facilities in Osun State, Nigeria to assess the quality of intra-partum care received by parturients while in labour revealed that 15.4 % of parturient received optimal care in hourly BP monitoring, 21.6% in half hourly FHR

monitoring, and 71.9 % in four-hourly VE.<sup>6</sup> Furthermore, an investigation carried out to assess the effectiveness of promoting the use of the World Health Organisation (WHO) partogram by midwives in a maternity home revealed that 92.4% out of 358 parturient partograms were not correctly completed.<sup>7</sup> Reports of randomized controlled trials on support in labour showed that continuous empathetic and physical support during labour resulted in many benefits including: shorter labour; significantly less medication and epidural analgesia; fewer Apgar scores of <7 and fewer operative deliveries. These supports include: emotional support consisting of praise, reassurance, measures to improve the comfort of the mother, physical contact such as rubbing the mother's back and holding her hands, explanation of what is going on during labour and delivery and a constant friendly presence.<sup>8</sup> An assessment among 15 women after delivery in United States of America concluded that when decision making was increasingly shared between the women and the caregivers, the women expressed more positive emotions.<sup>9</sup>

### Scope of the Study

The study was carried out to assess quality of intra-partum care received by parturient with focus on the monitoring of BP, PR, FHR, VE performed on parturient, proper documentation of information on the progress of active phase of first stage of labour on partograms of parturient and level of psycho-social support received by parturient from labour ward staff during active phase of first stage of labour at UCH, Ibadan, Oyo State, Nigeria.

### Justification of the Study

Findings from this study will provide information on the quality of services delivered to parturient during active phase of first stage of labour at UCH, Ibadan. It will also provide additional information to the existing literatures on intra-partum care in Nigeria. Furthermore, findings from this study may form the basis for training programs on improved obstetrical practices. It will also stimulate interest for further studies. Above all, the data and key findings from this study will serve as a reference document for the hospital in policy formulation and implementation towards reducing maternal and fetal morbidity and mortality rates.

### Statement of Research Problem

World-wide 1,600 women die daily as a result of problems during pregnancy or childbirth.<sup>10</sup> Average international annual percentage change in maternal mortality rate was -3.1 percent, while the estimated number of maternal deaths for 2013 was 40,000.<sup>11</sup> The lifetime risk of maternal death was 1 in 41 with Sub-Saharan Africa still the riskiest region in the world with women dying of complications during pregnancy and childbirth. Although the United Nations Population Fund (UNFPA) reported that the number of maternal deaths on a global scale has been reduced by half since 1990, disparity exists with Nigeria, accounting for 14 percent of all maternal deaths per year.<sup>12</sup> From 1990 to 2012, Nigeria's maternal mortality rate increased from 470 maternal deaths to 630 for every 100,000 live births.<sup>13</sup> Consequences of maternal mortality go beyond the mother's death as they also obstruct the development of families, slow economic growth and leads to loss of global productivity. Many children in Nigeria will live their entire lives without knowing their biological mothers. Hence, maternal mortality in Nigeria is recognized as an increasing public health problem<sup>14</sup> which reflects a dire situation in need of intervention. Monitoring the progress of labour allows midwives and obstetricians to identify mothers and fetus who are at risk during labour and require life-saving care to reduce maternal mortality and morbidity. Effort should be made to provide essential obstetric services that are available, accessible, and acceptable to all childbearing women.<sup>15</sup> Since complications are not always predictable care of women from skilled health professionals at childbirth is very important when rapid treatment can make a difference between life and death.<sup>16</sup> Continuous monitoring of labour and provision of rapid care to deal with problems are most crucial for preventing adverse obstetric outcomes related to childbirth.<sup>17</sup> The labour ward is in the front line of endeavours to improve the situation, where obstetricians and midwives are required to make rapid decisions under pressure to prevent and manage adverse outcomes during childbirth.<sup>18</sup>

### Research Questions

1. What is the percentage of parturient who had optimal BP monitoring during active phase of first stage of labour?

2. What is the percentage of parturient who had optimal PR monitoring during active phase of first stage of labour?
3. What is the percentage of parturient who had optimal VE during active phase of first stage of labour?
4. What is the percentage of parturient who had optimal FHR monitoring during active phase of first stage of labour?
5. What is the percentage of parturient who had optimal documentation of information about progress of active phase of first stage of labour on their partogram?
6. What is the percentage of parturient who had optimal psycho-social support during active phase of first stage of labour?
7. What is the overall quality of intra-partum care received by parturient from labour ward staff during active phase of first stage of labour at UCH, Ibadan, Nigeria?

## Objectives of Study

1. To assess hourly BP monitoring on parturient during active phase of first stage of labour.
2. To determine hourly PR monitoring on parturient during active phase of first stage of labour
3. To document half-hourly FHR monitoring on parturient during active phase of first stage of labour
4. To determine four-hourly VE on parturient during active phase of first stage of labour
5. To assess documentation of information about progress of active phase of first stage of labour on partogram of parturient
6. To determine level of psycho-social support received by parturient during active phase of first stage of labour
7. To assess overall quality of intra-partum care received by parturient during active phase of first stage of labour at UCH, Ibadan, Nigeria

## 2. MATERIAL AND METHODS

**Study Design:** Descriptive cohort cross-sectional study.

**Target Population:** Consisted of pregnant women who had spontaneous vagina delivery (SVD) at the labour ward of the UCH, Ibadan during the period of study. Inclusion criteria were all consented booked and un-booked parturient who reached full cervical dilatation (10 cm) one hour and above from the time of admission into the labour ward.

### Sample Size Estimation

Formula,  $n = \frac{Z\alpha^2Pq}{d^2}$

Where,

$n$  = Minimum sample size

$Z\alpha$  = Standard normal deviate corresponding to the probability  $\alpha$  i.e. probability of making a type 1 error at 5% = 1.96

$P$  = Proportion of parturient who had optimal vagina examination

$q$  =  $1 - p$

$d$  = Degree of precision (5 % = 0.05)

Therefore,  $P = 71.9\%$ , proportion of parturient who had optimal vagina examination.<sup>6</sup>

$P = 71.9\% = 0.719$

$q = 1 - 0.719 = 0.281$

$Z\alpha^2 = 1.96^2 = 3.841$

$d^2 = 0.05^2 = 0.0025$

$$\frac{Z\alpha^2pq}{d^2} = \frac{3.8416 \times 0.719 \times 0.281}{0.0025} = \frac{0.77615302}{0.0025} \quad n =$$

Sample size = 310.46

### Allowance for 10% non-response rate

Formula,

$$N = \frac{n}{1 - NR}$$

Where,

N = new sample size

n = old sample size

NR = non- response rate = 10% = 0.1

$$N = \frac{n}{1 - NR} = \frac{310.46}{1 - 10\%} = \frac{310.46}{1 - 0.1}$$

$$N = \frac{310.46}{1 - 0.1} = \frac{310.46}{0.9} = 344.95$$

N (New sample size) = 344.95. This was approximated to 345 respondents

### Sampling Technique

Purposeful prospective sampling technique was used to recruit eligible participants into the study. Consented and eligible parturient were consecutively recruited until the estimated sample size was reached. Semi-structured self-administered questionnaires were administered to the participants and their labour records during active phase of first stage of labour were also reviewed.

**Study Instruments:** A semi-structured self-administered questionnaire and a checklist were used for data collection. Questionnaire comprised of multiple choice, open-ended and Likert-scale questions, it was translated to Yoruba language since the study was conducted in the Yoruba region of the country where most Yoruba resides. There was no need to translate checklist into any other language since it was used by the research assistants who were literates and understood English language.

### Scoring System of Study Instruments

**Semi-structured Self-administered Questionnaire:** Section A focused on socio-demographic characteristics of parturient while section B assessed one domain of intra-partum care; psycho-social support received by parturient during active phase of first stage of labour on an 6-items Likert scale in which participants ticked appropriate options that ranged from “agreed”, “disagreed” and “undecided”. “Agreed” to a statement was scored “1” while either “disagreed” or “undecided was scored “0”. The maximum obtainable score for each participant was 6 (100%). Using a 50% mark point, optimal psycho-social support was provided if the score was  $\geq 50\%$  ( $\geq 3$ ) and sub-optimal psycho-social support if  $< 50\%$  ( $< 3$ ).

**Observational checklist:** Section A assessed 4 domains of intra-partum care which include half-hourly FHR monitoring, hourly BP monitoring, hourly PR monitoring and four-hourly VE performed on parturient and documented in their labour records within a time period stipulated by the Safe Motherhood Initiative Standard. Scores ascribed to each domain of care ranged between 0 and 2 with participants whose FHR was timely done and recorded scored 2 points, those whose FHR was not timely done and recorded scored 1 point and those whose FHR was not done or recorded at all scored zero. Same pattern was followed for hourly BP, hourly PR and four-hourly VE. Maximum obtainable score by each parturient was 8 (100%). Optimal/quality care was provided if score was  $\geq 50\%$  ( $\geq 4$ ) and sub-optimal care/poor quality care if  $< 50\%$  ( $< 4$ ).

Section B of the checklist captured information on one domain of intra-partum care; documentation of information about progress of active phase of first stage of labour on the partogram of parturient. There were 13 items focusing on this domain and the score ascribed to each item ranged between zero and 2 points. Parturient whose information on each item was recorded adequately/timely scored 2 points, those whose information was not recorded adequately/timely scored 1 and those with information not recorded at all scored zero. The maximum obtainable score by each parturient was 26 (100%). Optimal care/quality care for parturient was provided when the score obtained was  $\geq 50\%$  ( $\geq 13$ ) and sub-optimal care/poor quality care if  $< 50\%$  ( $< 13$ ).

Overall maximum score of 40 points and minimum score of 0 point from the six domains of care assessed by this study could be obtained by a participant. Parturient whose overall score was  $< 50\%$  ( $< 20$  points)

received sub-optimal intra-partum care and those overall score was  $\geq 50\%$  ( $\geq 21$  points) received optimal intra-partum care during active phase of first stage of labour at the labour ward of UCH, Ibadan, Nigeria. Any care rendered to the parturient but not documented was taken as not done.

**Data Collection Procedure:** Questionnaires were administered on patients with SVDs as soon as possible after delivery while they were still in-patients in the labour ward or postnatal wards. Their labour records of active phase of first stage of labour were also reviewed carefully to fill the checklists. Data collection took place daily for a period of three and a half months of study.

**Validation of Study Instrument:** Instruments were carefully structured by the researchers according to the objectives of the study. Content of the tools was compared with available literatures on the topic. Items in the questionnaire and checklist, appropriateness of language and instructions to the respondents were reviewed and corrected.

**Reliability of Study Instrument:** A pre-test of the study tools was carried out with Cronbach Alpha test result of 0.713.

**Statistical Analysis:** Data were analyzed using Statistical Packages for Social Sciences (SPSS) version 21.0. Descriptive statistics were used to summarize data; findings were presented in frequency tables and percentages. Hypotheses were tested using Chi-Square test. Level of Significance was set at  $=.05$ .

**Ethical Considerations:** Authors hereby declare that the study protocol was examined by the appropriate ethics committee and ethical approval was obtained from the University of Ibadan/University College Hospital (UI/UCH) Ethical Review Board. Study was conducted in accordance with ethical standards laid down in the 1964 Declaration of Helsinki. There was no harm or risk to the participants since the study did not involve any invasive procedure.

### 3. RESULTS

A total of 345 parturient were recruited into the study with 100% response rate.

**Table 1: Socio-demographic Characteristics of Participants (N=345)**

| Characteristics                 | Frequency | %    |
|---------------------------------|-----------|------|
| <b>Age (years)</b>              |           |      |
| < 20                            | 6         | 1.7  |
| 20-29                           | 141       | 40.9 |
| 30-39                           | 192       | 55.7 |
| 40-49                           | 6         | 1.7  |
| Mean age (30.4 $\pm$ 3.8 years) |           |      |
| <b>Parity</b>                   |           |      |
| Zero                            | 132       | 38.3 |
| 1-2                             | 167       | 48.4 |
| 3-5                             | 46        | 13.3 |
| Median no of births (1)         |           |      |
| <b>Booking status</b>           |           |      |
| Booked                          | 291       | 84.3 |
| Un-booked                       | 54        | 15.7 |
| <b>Occupation</b>               |           |      |
| Civil servant                   | 159       | 46.1 |
| Trading                         | 78        | 22.6 |
| Self-employed                   | 55        | 15.9 |
| Student                         | 24        | 7.0  |

|                                       |     |      |
|---------------------------------------|-----|------|
| Full-time housewife                   | 20  | 5.8  |
| Artisan                               | 9   | 2.6  |
| <b>Highest educational attainment</b> |     |      |
| No formal education                   | 3   | 0.9  |
| Primary                               | 11  | 3.2  |
| Secondary                             | 68  | 19.7 |
| OND/NCE                               | 54  | 15.7 |
| University degree                     | 207 | 60.6 |
| <b>Marital status</b>                 |     |      |
| Married                               | 332 | 96.2 |
| Single                                | 207 | 60.6 |
| Separated/divorced                    | 3   | 0.9  |
| <b>Religion</b>                       |     |      |
| Islam                                 | 106 | 30.7 |
| Christianity                          | 239 | 69.3 |
| <b>Ethnicity</b>                      |     |      |
| Yoruba                                | 286 | 82.9 |
| Igbo                                  | 34  | 9.9  |
| Hausa                                 | 4   | 1.2  |
| Others*                               | 21  | 6.0  |

**Others\*** (Tiv, Ijaw, Esan, Urobo, Efik, Isoko and Idoma)

Most participants were in 30-39 years age category with the least found between 40-49 years age group. Few of the participants have had 3-5 deliveries in the past while, majority were booked patients of the facility. Almost all the participants were married; few were either single or separated/divorced. Majority had a University degree while just few participants had no formal education. Participants belonged to the two major religious faiths; Christianity and Islam. Majority of the participants belonged to Yoruba ethnic group (Table 1).

**Table 2: Monitoring and Documentation of Blood Pressure, Pulse Rate, Fetal Heart Rate and Vagina Examination**

| N=345                          |                            |                                    |                                |
|--------------------------------|----------------------------|------------------------------------|--------------------------------|
| Domains if Intra-partum Care   | Done/Documented Timely (%) | Done/Documented but not Timely (%) | Not Done/Documented at all (%) |
| Hourly Blood Pressure          | 143 (41.4)                 | 190 (55.1)                         | 12 (3.5)                       |
| Hourly Pulse Rate              | 142 (41.2)                 | 192 (55.7)                         | 11 (3.2)                       |
| Half-hourly Fetal Heart Rate   | 212 (61.4)                 | 127 (36.8)                         | 6 (1.7)                        |
| Four-hourly Vagina Examination | 294 (85.2)                 | 27 (7.8)                           | 24 (7.0)                       |

Less than average of the parturient had their BP monitored and recorded hourly, more than average had it monitored and recorded not hourly while just few parturient did not have it monitored at all. Also less than average of parturient had their PR monitored and recorded hourly, above average had it monitored and recorded not hourly while few parturient did not have it monitored at all. Majority of the parturient had

their FHR monitored and recorded half-hourly, some had it monitored and recorded not half-hourly while few did not have it monitored at all. Majority of the parturient had VE conducted and recorded four-hourly while few had it not done four-hourly or not done at all (Table 2).

**Table 3: Documentation of Progress of Active First Stage of Labour on the Partogram**  
**N=345**

| Information to be documented                             | Documentation on Partogram |                           |                           |
|----------------------------------------------------------|----------------------------|---------------------------|---------------------------|
|                                                          | Documented Timely (%)      | Not Documented Timely (%) | Not Documented at All (%) |
| Condition of amnion membranes                            | 129(37.4)                  | 33(9.6)                   | 183(53.0)                 |
| FHR                                                      | 70(20.3)                   | 128(37.1)                 | 47(42.6)                  |
| Condition of liquor                                      | 37(10.7)                   | 74(21.4)                  | 234(67.8)                 |
| Degree of moulding                                       | 35(10.1)                   | 75(21.7)                  | 235(68.1)                 |
| Cervical dilation                                        | 116(33.6)                  | 87(25.2)                  | 142(41.2)                 |
| Decent of the presenting part                            | 80(23.2)                   | 94(27.2)                  | 171(49.6)                 |
| Frequency, strength and duration of uterine contractions | 106(30.7)                  | 90(26.1)                  | 149(43.2)                 |
| Medications and intravenous fluids                       | 50(14.5)                   | 37(10.7)                  | 258(74.8)                 |
| BP and PR Measurements                                   | 15(4.3)                    | 129(37.4)                 | 201(58.3)                 |
| Temperature readings                                     | 22(6.4)                    | 19(5.5)                   | 304(88.1)                 |
| Volume of urine passed                                   | 6(1.7)                     | 6(1.7)                    | 333(96.5)                 |
| Urine test for protein at each micturition               | 14(4.1)                    | 13(3.8)                   | 318(82.2)                 |
| Urine test for ketones at each micturition               | 11(3.2)                    | 12(3.5)                   | 322(93.3)                 |

Parameters most timely documented on the partogram of parturient were condition of membranes, cervical dilatation, uterine contractions, descent of presenting part and FHR. Most parameters not timely documented included volume of urine passed, urine test for ketones, urine test for protein, BP/PR measurement and temperature readings (Table 3).

**Table 4: Assessment of Psycho-Social Supports Received by Parturient During Active Phase of First Stage of Labour**

**N=345**

| Parameters                                                        | Agreed (%) | Disagreed (%) | Undecided (%) |
|-------------------------------------------------------------------|------------|---------------|---------------|
| Relation allowed to stay with parturient                          | 99 (28.7)  | 232 (67.0)    | 15 (4.3)      |
| Respect to privacy of parturient                                  | 326(94.5)  | 15 (4.3)      | 4 (1.2)       |
| Labour ward staff readily available                               | 315 (91.3) | 27 (7.8)      | 3(0.9)        |
| Encouraging, calming and reassuring words given to parturient     | 316 (91.6) | 19 (5.5)      | 10 (2.9)      |
| Provision of Pain Relieving Measure such as back rub or analgesia | 150 (43.5) | 182 (52.8)    | 13(3.8)       |
| Parturient being carried along with her care by midwife/doctor    | 298 (86.4) | 40 (11.6)     | 7 (2.0)       |

Quite large number of participants agreed that midwives/doctors respected their privacy; labour ward staff were readily available whenever they called on them; they were allowed to contribute their opinions about their management during labour; and they received encouraging, calming and re-assuring words during

labour. However, a higher proportion disagreed that they were allowed to have someone with them during labour (Table 4).

**Table 5: Rating of Monitoring and Documentation of BP, PR, FHR, VE, Partogram Documentation and Psychosocial Support  
N=345**

| Domains of Care                 | Optimal Care (%) | Sub-Optimal Care (%) |
|---------------------------------|------------------|----------------------|
| Hourly Blood Pressure           | 143 (41.4)       | 202 (58.6)           |
| Hourly Pulse Rate               | 142 (41.2)       | 203 (58.9)           |
| Half-hourly Fetal Heart Rate    | 212 (61.4)       | 133 (38.5)           |
| Four-hourly Vaginal Examination | 294 (85.2)       | 51 (14.8)            |
| Partogram Documentation         | 63 (18.2)        | 282 (81.8)           |
| Psychosocial support            | 250 (72.6)       | 95 (27.4)            |

Majority had optimal VE, FHR monitoring and psycho-social support. Less than average of participants had optimal care in BP and PR monitoring and documentation about progress of labour on the partogram (Table 5).

**Table 6: Overall Quality of Intra-partum Care Received by Parturient during Active Phase of First Stage of Labour  
N=345**

| Overall Intra-partum Care | Frequency  | Percentage   |
|---------------------------|------------|--------------|
| Optimal care              | 184        | 53.3         |
| Sub-optimal care          | 161        | 46.7         |
| <b>Total</b>              | <b>345</b> | <b>100.0</b> |

In overall above average of the participants received optimal intra-partum care during active phase of first stage of labour at the labour ward of the UCH, Ibadan, Nigeria (Table 6).

## HYPOTHESES

**Table 7: Socio-demographic Characteristics of Parturient and Blood Pressure Monitoring**

| Socio-demographic Characteristics | Hourly Blood Pressure Monitoring<br>N=345 |                      |         |
|-----------------------------------|-------------------------------------------|----------------------|---------|
|                                   | Optimal Care (%)                          | Sub-Optimal Care (%) | P-value |
| <b>Age (years)</b>                |                                           |                      |         |
| ≤ 30                              | 71 (35.9)                                 | 127 (64.1)           | 0.01    |
| >30                               | 72 (49.0)                                 | 75(51.0)             |         |
| <b>Parity</b>                     |                                           |                      |         |
| None                              | 116 (46.4)                                | 144 (53.6)           | 0.081   |
| 1-5                               | 229 (53.3)                                | 201 (46.7)           |         |

290  
291 Age of parturient was significantly associated with BP monitoring. However, parity was not significantly  
292 associated BP monitoring (Table 7).  
293

294 **Table 8: Socio-demographic Characteristics and Hourly Pulse Rate Monitoring**  
Hourly Pulse Rate  
Monitoring  
N= 345

| Socio-demographic Characteristics | Optimal Care (%) | Sub-Optimal (%) | P-value |
|-----------------------------------|------------------|-----------------|---------|
| <b>Age (years)</b>                |                  |                 |         |
| ≤ 30                              | 70 (47.6)        | 77 (52.4)       | 0.023   |
| >30                               | 72 (36.4)        | 126 (63.6)      |         |
| <b>Parity</b>                     |                  |                 |         |
| None                              | 119 (45.8)       | 141 (54.2)      | 0.138   |
| 1-5                               | 226 (52.6)       | 204 (47.4)      |         |

295  
296 Age of parturient was significantly associated with PR monitoring. However, there was no association  
297 between parity and PR monitoring (Table 8).  
298

299 **Table 9: Socio-demographic Characteristics and Fetal Heart Rate Monitoring**  
Hourly Blood Pressure  
Monitoring  
N=345

| Socio-demographic Characteristics | Optimal Care (%) | Sub-Optimal Care (%) | P-value |
|-----------------------------------|------------------|----------------------|---------|
| <b>Age (years)</b>                |                  |                      |         |
| ≤ 30                              | 119 (60.1)       | 79 (39.9)            | 0.314   |
| >30                               | 93 (63.3)        | 54(36.7)             |         |
| <b>Parity</b>                     |                  |                      |         |
| None                              | 137 (52.3)       | 125 (47.7)           | 0.294   |
| 1-5                               | 208 (48.6)       | 220 (51.4)           |         |

300  
301 There was no association between age, parity, and FHR monitoring (Table 9).

**Table 10: Socio-demographic Characteristics and Vagina Examination  
Four Hourly Vagina  
Examination  
N=345**

| Socio-demographic Characteristics | Optimal Care (%) | Sub-Optimal Care (%) | P-value |
|-----------------------------------|------------------|----------------------|---------|
| <b>Age (years)</b>                |                  |                      |         |
| ≤ 30                              | 171 (86.4)       | 27 (13.6)            | 0.292   |
| >30                               | 123 (83.7)       | 24(16.3)             |         |
| <b>Parity</b>                     |                  |                      |         |
| None                              | 134 (52.3)       | 122 (47.7)           | 0.379   |
| 1-5                               | 211 (48.6)       | 223 (51.4)           |         |

There was no association with age, parity, and VE (Table 10).

**Table 11: Socio-demographic Characteristics and Documentation on Partogram  
Documentation on  
Partogram  
N=345**

| Socio-demographic Characteristics | Optimal Care (%) | Sub-Optimal Care (%) | P-value |
|-----------------------------------|------------------|----------------------|---------|
| <b>Age (years)</b>                |                  |                      |         |
| ≤ 30                              | 7 (20.2)         | 191 (79.8)           | 0.387   |
| >30                               | 3 (15.6)         | 144(84.4)            |         |
| <b>Parity</b>                     |                  |                      |         |
| None                              | 148 (36.4)       | 259 (63.6)           | 0.693   |
| 1-5                               | 211 (48.6)       | 223 (51.4)           |         |

There was no association between age, parity, and documentation on partogram (Table 11).

**Table 12: Socio-demographic Characteristics and Psycho-Social Support  
Psycho-Social Support  
N=345**

| Socio-demographic Characteristics | Optimal Care (%) | Sub-Optimal Care (%) | P-value |
|-----------------------------------|------------------|----------------------|---------|
|-----------------------------------|------------------|----------------------|---------|

|                    |            |            |       |
|--------------------|------------|------------|-------|
| <b>Age (years)</b> |            |            |       |
| ≤ 30               | 184 (92.9) | 14 (7.1)   | 0.06  |
| >30                | 123 (83.7) | 24(16.3)   |       |
| <b>Parity</b>      |            |            |       |
| None               | 131 (47.6) | 144 (52.4) | 0.513 |
| 1-5                | 214 (51.6) | 201 (48.4) |       |

There was no significant association between age, parity and level of psycho-social support (Table 12).

## DISCUSSION

Mean age of participants was 30.4±3.8 years with the modal age of 30-39 years, this falls within the child bearing age. The facility was being well patronized as majority of participants were booked patients of the facility. Most participants had tertiary education and were predominantly Yorubas. Study setting was located in an urban area with more elites in the Yoruba land of Southwest region of the country. This study revealed optimal care in FHR monitoring, VE and psycho-social support rendered to the parturient. However, sub-optimal care was given to the parturient in BP monitoring, PR monitoring and documentation on the partogram during active phase of first stage of labour. Majority of the partogram were not filled. Even some that were filled were not filled legibly which affected data collection. This suggests that some obstetricians in the labour ward of the facility might benefit from the in-service training on the filling and proper documentation of labour progress on partogram. Deficiencies in some domains of intra-partum care as identified by this study were in tandem with similar study which could be due to shortage of staff, low staff morale, lack of clinical skills, poor knowledge on the filling of partogram, and poor remuneration among the attending midwives and the obstetricians.<sup>6</sup> Optimal psycho-social support experienced among majority of parturient during active phase of first stage of labour corroborated with the findings in related studies on psycho-social support from the healthcare givers to parturient while in labour.<sup>8,9</sup> This might be due to likely good interpersonal relationship between midwives/obstetricians and their patients which is common in the labour ward environment. Poor documentation of labour progress on the partogram might implied that SVDs may not be monitored appropriately which has health implications on the quality of intra-partum care being provided in the labour ward. Partogram use for women in labour prevents some possible obstetrics complications such as prolonged labour, obstructed labour, antepartum haemorrhage, stillbirth among others. If it is effectively filled during labour, it provides at a glance the condition of both parturient and the fetus. Furthermore, proper documentation of patients' record of care can be used for continuity of care, record and legal purposes. To ensure safe delivery, partogram must be effectively utilized by the attending midwives/obstetricians.

## Hypotheses of the Study

Chi-Square analysis showed that age of parturient was significantly associated with BP and PR monitoring. Parturient who were aged above 30 years were likely to have hourly BP and PR performed on them than their counterparts who were aged 30 years and below. This might be due to close monitoring giving to them by the attending midwives as a result of their advanced maternal age which needs close monitoring of labour to prevent likely complications. However, parity was not significantly associated BP and PR monitoring. Also, there was no association between age, parity, and FHR monitoring. Furthermore, there was no association of age and parity with VE, documentation on partogram and psycho-social support received by parturient during active phase of first stage of labour at UCH, Ibadan, Nigeria. This implies that age and parity of parturient were not determinants of VE, documentation of progress of labour on partogram and level of psycho-social support rendered to parturient during active phase of first stage of labour.

#### 4. CONCLUSION

Optimal care in FHR monitoring, VE and psycho-social support was rendered to parturient during active phase of first stage of labour. However, care was sub-optimal in BP and PR monitoring as well as documentation of information about progress of active phase of first stage of labour on the partograms of the parturient. In overall, quality of intra-partum care received by parturient was optimal during active phase of first stage of labour at labour ward of UCH, Ibadan, Nigeria.

#### Implications of Findings

Findings from this study have health promotion and prevention of maternal and child morbidity and mortality implications which suggest the need for multiple interventions directed at tackling the phenomenon. Childbirth is a time of greatest risk for maternal deaths and this is the main reason while childbirth should be handled by competent personnel who are skilled in all area related to child delivery.<sup>3</sup> Maternal health strategy throughout the world has long emphasized quality intra-partum care which includes skilled birth attendance for all women and emergency obstetric care to prevent maternal deaths from direct causes such as haemorrhage, obstructed labour, hypertension, infection and anaemia.<sup>19</sup> It is evident in recent years that a well-functioning health-care system and the provision of a continuum of care are essential for achieving excellent healthcare services.<sup>20</sup> Such a continuum would include quality intra-partum care and maternal health-care.<sup>21</sup> Quality intra-partum care will foster maximum reduction in maternal and child morbidity and mortality rates. Consequences of poor intra-partum care include: prolonged labour, obstructed labour, pre-eclampsia, eclampsia, antepartum heamorrhage, anaemia, intrauterine fetal death, stillbirth, early neonatal death and maternal death. Furthermore, it may result to poor development of families, slow economic growth and reduction in global productivity. Also, many children if survive will live their entire lives without knowing their mothers least of caring for them which may promote increase in social vices. Therefore, midwives and obstetricians should intensify their efforts in effective monitoring of parturient in labour in all areas related to intra-partum care which include adequate monitoring of parturient BP, PR and FHR, vagina examination, adequate documentation of information of progress of labour on the partogram and provision of optimal psycho-social supports for parturient. More efforts on healthcare services in these areas can help in providing extreme quality and excellent intra-partum care which tends to improve maternal health.

#### Study Limitation

**Challenge of generalization:** The results of the study may not be generalized because the study was conducted on a small sample of the population.

#### ETHICAL APPROVAL

All authors hereby declare that the study protocol was examined and approved by the appropriate ethics committee and has therefore been conducted in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. Approval was sought and obtained from the University of Ibadan/ University College Hospital (UI/UCH) Ethical Review Board.

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## DEFINITION OF TERMS

**Partogram:** Sheet of paper with graph (labour record) advocated by WHO where progress of active phase of labour is to be recorded.

**Parturient:** Pregnant woman in labour.

**Psycho-social Support:** Mutual relationship established by midwives and or obstetricians with parturient during labour which determines emotion, behaviour and joy of the parturient.

**Quality Intra-partum Care:** Standard of care expected of a midwife and or obstetrician to the pregnant woman and her expectant baby during active phase of first stage of labour such as hourly BP monitoring, hourly PR monitoring, half-hourly FHR monitoring, four-hourly VE, proper and timely documentation of information about progress of active first stage of labour in the partogram (labour record) of the parturient and provision of adequate psycho-social support to parturient during active phase of first stage of labour.

## ABBREVIATIONS

UCH: University College Hospital

UNFPA: United Nations Fund for Population Activities

UNICEF: United Nation Children Fund

WHO: World Health Organization