

## Original Research Article

# Utilisation of Partograph among Obstetric Caregivers in Primary Healthcare Centres in Southeast State in Nigeria

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### Article History

Received: 02.07.2022

Accepted: 05.08.2022

Published: 09.09.2022

### Journal homepage:

<https://www.easpublisher.com>

### Quick Response Code



**Abstract:** The use of partograph in managing labour is imperative to decrease obstetric issues associated with child birth. Prolonged and obstructed labour is a major cause of maternal mortality. The purpose of this study was to assess the level of utilization of partographs in providing care for... among Obstetric care providers in healthcare centers in Orlu Local Government Area of Imo State, southeast Nigeria. A descriptive design was adopted for the study. A semi-structured questionnaire was used to collect data from obstetric care giver; a structured validated proforma was also used to collect data from patient records in all the health centres. SPSS version 24 was used to analyze the data, and the results were presented in tables. Result showed that partograph utilization was poor as only only 1(0.6%) showed record of descent 2(1.3%) had record of cervical dilatation plotted four hourly apart. In none was the alert line reached nor any drug given. On the recordings for second stage of labour in the partograph table three showed information on maternal monitoring, it showed that blood pressure, pulse, and temperature were documented on the 3(1.90%) partographs, but no information on nature of urine (protein, acetone or volume) was done. The study suggests that the poor Partograph utilization by obstetric care givers could be due to some factors which will require investigation. It is however recommended that further training should be required to improve the use of partograph.

**Keywords:** Utilisation, partograph, obstetric, caregivers, primary Healthcare centres.

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## INTRODUCTION

Pregnancy and delivery complications are the main causes of maternal death globally, particularly in underdeveloped countries (World Health Organization, 2010). Every year, about half a million women die due to complications of pregnancy and childbirth, and countless others suffer terrible injuries as a result of obstructed labor (Sharmin, Rashid, Hazra & Khondker, 2012). Approximately 210 million women become pregnant each year, with 20 million of these women experiencing pregnancy-related problems. Approximately 62% (179,000) of maternal deaths occurred in Sub-Saharan Africa, followed by Southern Asia (69,000) (World Health Organization, WHO, 2014). Despite ongoing efforts by stakeholders and development partners to reduce maternal mortality, it remains a major public health concern in Sub-Saharan Africa, particularly in Nigeria. Maternal mortality rate (MMR) data in Nigeria is primarily institutional. They

differ depending on the geographical zone and they are worse in rural areas than in metropolitan areas. In third world nations like Nigeria, prolonged and obstructed labour is still a major cause of maternal morbidity and mortality.

The World Health Organization advises using a partograph during labor and delivery to improve health care and minimize morbidity and mortality among mothers and babies (WHO, 1994). Partograph is a diagram that depicts the progression of labour, as well as maternal and fetal health, and gives information for the early detection and diagnosis of aberrant labor (Kavitha, Pujar, Shruthi, Saliyan, Sunanda & Kulkarni, 2016). It is a low-cost instrument that gives you a continuous graphical representation of your labor and has been proved to improve outcomes when used to monitor labour (Ysma, Dessalega, Astatkie & Fesseha, 2013). The proper utilization of partograph during

labour on a regular basis can be used to reduce prolonged and obstructed labour (and therefore maternal deaths to about 8% of globally) (Opiah *et al.*, 2012). The mother and fetal status are plotted against time in hours on a partograph, which is a pictorial documentation of the course of labor (Opiah *et al.*, 2012). It's an important tool for labor management since it allows obstetric care givers to record their findings on a standardized form.

The use of partograph has been said to have reduced the maternal mortality rates since abnormal indicators during labour would be identified on time (Asibong *et al.*, 2014). A ruptured uterus, postpartum haemorrhage, infection, obstetric fistula, and fetal damage or deaths are all common causes of maternal and neonatal morbidity and mortality. During a five-year investigation on maternal mortality at the Imo State University Teaching Hospital in Orlu, thirty-seven maternal fatalities were discovered (Okeudo & Ezem, 2013). In the new Women and Children Friendly Services (WCFHS) Initiative from the Federal Ministry of Health in Nigeria and UNICEF, the partograph as a tool for intra- partum management is an obligatory component of care in all health institutions providing maternity services (Mathibe- Neke, Lebeko & Motupa, 2013). In the study area, it has been observed that most health health workers complain about shortage of staff and the burden of work making it difficult to proper recording taking with regards to the utilization of partograph.

## METHODOLOGY

### Research Design

This study adopted a mixed design that used the convergent parallel design also known as triangulation which has been successfully used by other researchers (Zelew & Tegegne, 2018, Wakgari *et al.*, (2015). Data was validated using the triangulation method by comparing results from many sources. It examines the consistency of responses acquired using several instruments and raises the likelihood of control (Kennedy, 2009). Therefore, quantitative and qualitative data were collected and given equal priority in discussing the phenomenon under study. This was considered suitable because the researcher believes that peoples' experiences may not be fully captured by numerical data alone. Thus, a need to deepen understanding of the phenomenon using a qualitative approach (Heale & Forbes, 2013).

The researcher chose this method to increase confidence in the findings by confirming a proposition with two or more independent measures; the combination of findings from two or more rigorous approaches provides a more comprehensive picture of the results than either approach could do alone in exploring partograph utilization and associated factors among obstetric care providers in primary health care centers in Orlu Local Government, Imo state.

### Sample

Due to the small size, all the entire 83 obstetric care providers were utilized for the study.

### Area of Study

This study was conducted in Orlu Local Government Area of Imo State, which is situated 20 Kilometers from Owerri town the capital of Imo State. Its entire length is about 150.60 square Kilometres from the boundaries of Njaba LGA to the south, Ihiala LGA to the North, Orsu LGA to the West and Ideato North and South LGA to the East. It has one stream called the Ogidi stream. Orlu Local Government Area is made up of Sixteen communities namely; Umuna, Eziachi, Umuzike, Umutanze, Umuodioka, Owerre-Ebeiri, Umuowa, Amike, Amaefeke, Ihioma, Okporo, Ogberuru, Obibi-Ochasi, Ihitte-Owerre and Orlu.

Orlu Local Government Area has two tertiary institutions, the College of Nursing and Technology and the School of Health Technology Okporo. It also has a tertiary hospital, the Imo State University Teaching Hospital (IMSUTH) Orlu, which houses the Imo State University's College of Medicine and Department of Nursing campuses. There is a comprehensive Primary Health care centre in each of the sixteen communities.

### Population for the Study

The population for the study consisted of all obstetric care givers working in the various health centres within the study area.

## INSTRUMENT FOR DATA COLLECTION

### Quantitative Strand

The instrument for data collection was a researcher developed structured questionnaire and proforma which was used to collect data from patient's folder. There were four sections to the questionnaire. Section A had eight questions about the respondents' demographics, while Section B and C had eight and six questions about the personal and institutional factors that influence the usage of partograph, respectively. The updated WHO partograph includes the following primary variables as components: which comprised of sixteen items, were used to create the checklist. To be objective, the modified WHO partograph's labor parameters/parts were evaluated to see if they had been monitored according to WHO standard practice. The following are standard techniques for recording parameters depending on time intervals: - (1) every four hours, Cervical dilatation, moulding, descent of the presenting part, and blood pressure should all be monitored.; (2) every 30 minutes, keep track of the foetal heart rate, the mother's pulse, and uterine contractions.; (3) the baby's condition after birth should always be documented on the card. If a parameter is recorded, it is marked as Yes; otherwise, it is marked as No.

### Procedure for Data Collection

Administrative heads of each facility gave their consent to facilitate data collection using the ethical approval letter from the Head of Department.

The researcher hired and trained three assistants on the study's goals, as well as how to administer the questionnaire and collect data using the checklist. The researcher with the research assistants visited the obstetric care givers in the selected health facilities to collect data. The checklist was used to get information from 157 average deliveries per year in all the primary health centers patients medical folder. On the spot, all questionnaires were filled out and collected. The questionnaire and checklist were distributed and collected during a three-week period.

## METHOD OF DATA ANALYSIS

### Quantitative Strand

The questionnaire and pro forma that had been retrieved were gathered and counted. The data was analyzed using simple descriptive statistics such as frequency and percentages. Tables were used to present the findings. The frequency and percentages for objectives one, two, and three were reported.

## RESULTS

Result showing Partograph utilization and associated factors among obstetric care givers in primary healthcare centres in Orlu L.G.A. of Imo State.

### Socio-Demographic Information of the Participants (N =78)

The socio-demographic characteristics of the participants are shown in Table 1. 76(97.4%) were females. 45(57.7%) were CHEWs, 20(25.6%) health assistants, 13(16.7%) nurses. 57(73.1%) of the workers had worked between <1year and 5years and the mean years of experience was 5years.

**Table 1: Socio-demographic information of the participants (n =78)**

s/n	Variables	Frequency	Percentage
	8-27years	12	15.4
	8-37 years	45	77.7
	8-47years	16	20.5
	8-57years	5	6.4
	Mean $\pm$ SD	34.0 $\pm$ 700	
1	<b>Gender</b>		
	Male	2	2.6
	Female	76	97.4
2	<b>Highest professional qualification</b>		
	Registered Nurse/Midwives	13	16.7
	Obstetric doctor	1	1.3
	CHEW	44	56.4
	Health Assistant	20	25.6
3	<b>Years of working experience in the facility</b>		
	< 1 - 5yeras	57	73.1
	6 - 10 years	18	23.1
	11 - 15 years	1	1.3
	16 -20 years	0	0.0
	21 – 25years	2	2.6
	Mean $\pm$ SD	5.0 $\pm$ 4.00	

### Utilization of Partograph among Obstetric Care Givers in Primary Healthcare Centres

Table 2 shows the utilization of partograph among Obstetric care givers in primary Healthcare centres in Orlu L.G.A. 73(93.6%) of the respondents

claimed that they use partograph and 67 (85.9%) correctly identified it as a basic graphic recording of labor progress and key maternal and fetal parameters against time in hours. 60(76.9%) claimed that they always use partograph.

**Table 2: Utilization of partograph among obstetric care givers in primary healthcare centres in Orlu L. G. A (n =78)**

1	<b>Do you use partograph in monitoring labour and delivery?</b>		
	No	5	6.4
	Yes	73	93.6
2	<b>Partograph refers to:</b>		
	A chart for monitoring of labour by doctor	4	5.1
	A chart developed by midwives in the developing countries to monitor labour a complex tool with Pictorial overview of labours for use by midwives	6	7.7
	A simple graphic recording of progress of labour and salient conditions	1	1.3
		67	85.9
3	<b>If yes, How often do you use it?</b>		
	Rarely	50	75.34
	Seldomly	13	17
	Sometime	3	4.12
	Always	2	2.7

**Checklist**

Were the following monitored (circle yes or no, if yes write how many times plotted).

**Table 3: Utilization of Partograph, (check List/ profoma) Fetal Monitoring (n=157)**

Items	Yes	No
Partograph attached to the client's medical folder and properly filled	3(1.9)	154 (98.1)
Gravid/para	3(1.9)	154 (98.1)
Membrane intact/ruptured and time recorded	3(1.9)	154 (98.1)
Fetal heart rate	3(1.9)	154 (98.1)
Colour of liquor recorded	3(1.9)	154 (98.1)
Moulding	3(1.9)	154 (98.1)
<b>If the following labour progress indicators recorded</b>		
Cervical dilatation	3(1.9)	154 (98.1)
Descent	1(0.6)	156 (99.4)
First dilatation plotted	3(1.9)	154 (98.1)
Cervical dilatation plotted four hourly apart	2(1.3)	155 (98.7)
Uterine contraction plotted half hourly	3(1.9)	154 (98.1)
Was the alert time crossed	0(0.0)	157(100.0)
<b>According to partograph the women delivered</b>		
On or left of alert line	3(1.9)	154 (98.1)
Between alert and action line	0(0.0)	157(100.0)
At of beyond action line	0(0.0)	157(100.0)
was the action line reached	0(0.0)	157(100.0)
drug given recorded	3(1.9)	154 (98.1)

According to the records reviewed, 3(1.9%) partographs were found attached to the patient record and in all them were recorded information on parity, time of rupture of membrane, fetal heart rate, colour of liquor, moulding, cervical dilatation, drug given

recorded, uterine contraction plotted half hourly. However, only 1(0.6%) showed record of descent and 2(1.3%) had record of cervical dilatation plotted 4 hourly apart. in none of them was the alert line reached nor any action initiated.

**Table 4: Maternal Monitoring**

	Yes	No
<b>Indicators of labour progress recorded</b>		
Blood pressures	3(1.9)	154(98.1)
Pulse	3(1.9)	154(98.1)
Temperature	3(1.9)	154(98.1)
Urine protein	0(0.0)	157(100.0)
Acetone	0(0.0)	157(100.0)
Volume	0(0.0)	157(100.0)
<b>Labour complication detected by using partograph</b>		
Foetal distress	0(0)	157(100.0)
Prolonged labour	0(0.0)	157(100.0)
Obstructed labour	0(0.0)	157(100.0)

Ruptured uterus	0(0.0)	157(100.0)
Maternal distress	0(0.0)	157(100.0)
Cervical dystocia	0(0.0)	157(100.0)
Hypertonic uterine contraction	0(0.0)	157(100.0)
<b>Second stage of labour, were the second stage of labour indicator</b>		
Full dilatation of cervix	0(0.0)	157(100.0)
Date and time of delivery	157(100.0)	0(0.0)
Delivery date	157(100.0)	0(0.0)
<b>Method of delivery</b>		
Spontaneous vaginal delivery	157(100.0)	154(98.1)
Assisted or extraction (Forceps, [vacuum] [C/S] or other	0(0.0)	154(98.1)
Apgar score at 1min	0(0.0)	154(98.1)
At 5minute s	11(7.0)	146(93.0)
At 10minutes	0(0.0)	157(100.0)
<b>Status of new born</b>		
LFT premature, FSB, Macerated, NND or not indicated	0(0.0)	157(100.0)
Sex	157(100.0)	0(0.0)
Abnormalities	3(1.9)	154(98.1)
Weight	157(100.0)	0(0.0)
Length	0(0.0)	157(100.0)
Head circumference	0(0.0)	157(100.0)
Blood loss	0(0.0)	157(100.0)
Baby to nursery	0(0.0)	157(100.0)
Delivery singed by who conducted the delivery	157(100.0)	0(0.0)

Table 4 shows information on maternal monitoring, it shows that blood pressure, pulse, and temperature were documented on 3(1.9%) partographs but no information on urine protein, acetone, or volume. there was no record of foetal distress, prolonged labour, obstructed labour, ruptured uterus, maternal distress,

cervical dystocia, hypertonic uterine contractions nor record of when full dilatation was achieved.

Table provides information on documentations regarding third stage of labour. There was no documentation recorded.

**Table 5: Third Stage of Labour**

Items	Yes (%)	No (%)
Time of delivery of placenta	2 ( 1 . 3 )	1 5 5 ( 9 8 . 7 )
Mode of delivery	0(0.0)	157(100.0)
Blood loss	0(0.0)	157(100.0)
<b>Placenta</b>		
Complete		
Incomplete	3(1.9)	154(98.1)
Not indicated		
<b>Membranes</b>		
Complete	3(1.9)	154(98.1)
Incomplete		
Not indicate		
<b>Perineum</b>		
Information on perineum recorded	0(0.0)	157(100.0)
<b>Postnatal check</b>		
Was there any documentation on postnatal period	0(0.0)	157(100.0)

## DISCUSSION OF FINDINGS

### Utilization of Partograph among Obstetric Care Givers

The utilisation of partograph among Obstetric care givers in primary Healthcare centres in Orlu L.G.A was not satisfactory. A total of 73(93.6%) of respondents claimed that they use partograph, but with

the findings from the checklist, it was revealed that only 3(1.9%) partograph were found attached to the patients record and, in all recordings, information on parity, time of membrane rupture, heart rate of the fetus, colour of liquor, extent of moulding, rate of cervical dilatation, drug given and uterine contraction. However, only 1(0.6%) showed record of descent 2(1.3%) had record

of cervical dilatation plotted four hourly apart. In none was the alert line reached nor any drug given.

On the recordings for second stage of labour in the partograph table three showed information on maternal monitoring, it showed that blood pressure, pulse, and temperature were documented on the 3(1.90%) partographs, but no information on nature of urine (protein, acetone or volume) was done. This revealed poor level of utilization in line with the findings of Yisma *et al.*, (2013). On the third s stage of labour in the partograph, there is poor recording although 3(1.9%) of the partograph was attached to patients' medical record there is no documentation on third stage of labour, this also was validated by (Ogway, Kayabakalu & Rateembenvas, 2009).

## CONCLUSION

The use of partograph among obstetric care givers in primary health care centres in Orlu L.G.A, Imo State is poor. Personal factors reveal incompetence in the monitoring of labour with the partograph and lack of adequate orientation on partograph use. Institutional factors reveal inadequate manpower lack or insufficient training and orientation on the use remained a great challenge. Finally, this study reveals that with employment, supervision and training on partograph, utilization will be improved.

**Conflict of Interest:** None was declared.

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**Cite This Article:** Okoroafor Nkiru L, Esievo N. Judith, Ijeoma Maduakolam, Ijeoma Okoronkwo, Obataze J. Akpoyovwere (2022). Utilisation of Partograph among Obstetric Caregivers in Primary Healthcare Centres in Southeast State in Nigeria. *EAS J Nurs Midwifery*, 4(5), 160-167.