

Level of Knowledge, Utilisation and Factors Influencing the Use of Partograph among Obstetric Care Providers at Bonassama Health District Douala, Cameroon

Bende Yvette¹, Eta Vivian EA¹, Eta Chelsea Tabot-Njang², Obi Asu Enu-Ma^{1,3}, Palle John Ngunde¹

¹Department of Nursing, University of Buea, Cameroon

²Department of Pharmacy, University of Douala, Cameroon

³Department of Public Health and Hygiene, University of Buea, Cameroon

Abstract

Background: Maternal deaths resulting from obstructed labour can be prevented with the proper use of the partograph. The use of the partogram is critical in preventing maternal and perinatal morbidity and mortality. Knowledge and utilisation of partographs is of utmost importance, as it would culminate in a remarkable reduction of negative outcomes of obstructed labour.

Objectives: The aim of this study was to assess the level of knowledge, utilisation and factors influencing the use of partograph among Obstetric Care Providers at Bonassama Health District, Douala.

Materials and Methods: This study was a hospital-based descriptive cross-sectional and retrospective study. It was carried out at Bonassama Health District, Douala from 15th October 2024 to 20th July 2025. The participants were 59 Obstetric Care Providers working at the maternity units of the selected health facilities. Also, all medical records of parturients admitted at the maternity units from 1st to 31st March, 2025 were reviewed. Multi-stage sampling method was used to select study area and to recruit the participants. Data was collected using a structured questionnaire and a checklist. Data was analysed using IBM SPSS version 26. Chi-square test was used to determine the statistical significance with a p-value of <0.05. Ethical approval from the required authorities were obtained. All participants gave their consent before participating in the study.

Results: Fifty nine (59) obstetric care providers participated in the study. The most represented age groups were 31–35 years and 36–40 years 18(30.5%). One third of participants had Bachelor's Degree in Midwifery 16 (27.1%). Less than half of the participants 25 (42%) had good knowledge on the partograph with a mean knowledge score of 7.0 ± 1.72 . Majority 50 (84.7%) of the participants correctly identified the key components of the partograph. Partograph utilization varied across the six health facilities. Overall level of utilization was found to be 72%. Multivariable binary logistic regression showed that, participants who had no access to partograph charts in their ward were less likely to use (aOR = 0.22; 95% CI: 0.05–0.99; p = 0.048) compared to those with partograph availability.

Conclusion: The overall good knowledge on partograph among obstetric care providers was below average; however, the study revealed a high level of utilization of the partograph. Unavailability of partographs in the ward was one of the factors which affected the use of the partograph. Obstetric care providers should be subjected to intensive periodic on-job refresher courses on the use of the partograph and partographs should be made available in all maternity units of each health facility conducting deliveries.

Keywords: Knowledge, Obstetric Care Providers, Partograph, Utilization

Corresponding Author: Eta Vivian E. Ayamba, Ph.D., Faculty of Health Sciences, Department of Nursing, University of Buea, BP63 Buea, Cameroon

INTRODUCTION

Globally, maternal mortality remains a significant public health challenge; in 2020 95% an estimated 287,000 maternal deaths occurred [1]. Sub-Saharan Africa bears a disproportionate burden, accounting for 85% (245,000) of these preventable deaths [2]. A substantial proportion of these deaths are attributed to direct obstetric causes, including prolonged and obstructed labor which are not well monitored and managed [3]. The United Nations (UN) Sustainable Development Goals aim to reduce the global maternal mortality ratio (MMR) to less than 70 per 100,000 live births by 2030 [4]. Eventhough Cameroon has made progress in reducing its MMR from 782 deaths/100,000 live births in 2011 [5] to 438 deaths/100,000 live births in 2020 [6], further improvements are crucial to meet the UN targets.

Effective labour monitoring is vital for preventing complications and reducing maternal mortality. The partograph, a graphical representation of the progress of labour, maternal and fetal well-being [1] serves as a critical “early warning system” for detecting labour abnormalities [7]. When used effectively, the partograph is a potent and cost-effective tool for preventing unnecessary delays in labor [8], enabling Obstetric Care Providers (OCPs) to identify and address actual or potential problems during childbirth [9, 10]. Numerous reports demonstrate that adequate knowledge and use of the partograph can significantly reduce maternal mortality [11]. At times, the partograph is filled after delivery has occurred for the purpose of documentation and not as a tool for monitoring of labour [12]. This undermines the effectiveness of using the partograph to diagnose slow or obstructed labor early enough for timely interventions [13].

Despite the widespread advocacy and availability of the partograph, complications arising from obstructed labour persist, indicating suboptimal labour monitoring practices [10]. This could be due to inadequate knowledge on the use of the partograph and proper interpretation of the progress of labour. Having adequate knowledge on the use of the partograph also entails the understanding if labour can be augmented or not. Studies have revealed gaps in OCPs’ knowledge regarding the partograph and the interpretation of labour tracings in relation to alert and action lines [14]. Understanding when and how labour should be augmented during monitoring is essential. The principal method used for labour augmentation is an intravenous infusion of synthetic oxytocin [15]. Unfortunately, this pharmacological method can cause adverse maternal and perinatal outcomes when not strictly indicated. Recent evidence across low- and lower-middle-income countries indicates that oxytocin for

labour augmentation is frequently initiated without clear partograph indications [15].

Knowledge is a prerequisite to acquire skills to use of partograph to monitor labour [16]. It is expected that OCPs at all levels of healthcare facilities possess the knowledge and skills necessary for accurate application and interpretation [17]. However, low partograph utilisation rates have been reported globally, including in public health facilities in Ethiopia (54.4%) [18] and Cameroon (35%) [6]. Factors contributing to this suboptimal utilisation include inadequate knowledge, lack of partograph charts, and insufficient healthcare personnels [6, 16].

Limited data exists regarding the level of knowledge, utilisation, and associated factors related to partograph use among Obstetric Care Providers in the Bonassama Health District Douala, Cameroon. Existing studies primarily rely on cross-sectional designs to assess partograph utilisation. Thus, this study aims to address this gap by providing critical insights into the multifaceted issue of partograph use. By examining these factors, this research has the potential to inform the design of evidence-based interventions aimed at improving the utilisation of this essential tool in monitoring labour and ultimately contribute to positive maternal and neonatal outcomes in the Bonassama Health District.

Therefore, we conducted this study to evaluate the level of knowledge, utilisation and factors influencing the use of the partograph among Obstetric Care Providers at Bonassama Health District, Cameroon. Specifically, the study sought to assess the level of knowledge on Partograph, to determine the utilization rate of the partograph and to identify factors influencing the use of partograph among Obstetric Care Providers at Bonassama Health District, Cameroon. This was in order to provide a framework for the effective implementation and use of the partograph in our health facilities, which may in turn prevent or reduce maternal and perinatal morbidity and mortality.

METHODOLOGY

This was a hospital-based mixed study, which employed a descriptive cross-sectional and retrospective study designs. The study was conducted to assess the level of knowledge, utilization and identify factors influencing the use of partograph among Obstetric Care Providers at Bonassama Health District, Cameroon from October 2024 to July 2025. The Bonassama Health District has 11 health areas which are Bilingue, Bojongo, Bonamikano, Bonassama, Bonendale, Djébalè, Grand Hanger, Mambanda, Ngwele, Nkomba and Sodiko and it has a population of about 5,104,521 inhabitants [19]. Six health areas were selected and then, six leading health facilities were chosen

from each of the health areas. These selected facilities were Bonassama District Hospital, Hope Services Clinic Bonendale, St Albert Le Grand Catholic Hospital Bonaberi, CMA Sodiko, Centre Medical Marie-Mere Grand Hangar and Wisdom Clinic, Bojongo. These health facilities were selected because they have a high number of obstetric care providers who offer diverse reproductive health services at the maternity.

The study population consisted of all obstetric care providers who worked at the maternity unit of the selected health facilities. It also consisted of all medical records of parturients admitted at the maternity unit of the selected Health Facilities from 1st to 31st March 2025. A multi-stage sampling technique was employed to select the study area and the participants as follows: Stage One: Bonassama Health District (BHD) was chosen by purposive sampling. Stage Two; BHD has eleven (11) health areas out of which six (06) were chosen using the simple random sampling

without replacement. Stage Three: Purposive sampling technique was used to select six health facilities each from the selected health areas. The facilities selected were two government facilities, one mission facility and three private facilities were selected. Stage Four: Purposive sampling technique was used to select obstetric care providers working in the maternity department.

Stage Five: The participants who met the inclusion criteria at maternity department of each health facility were selected using the consecutive sampling. Participants included in the study were all obstetric care providers who were working in the maternity department of the selected health facilities, who agreed to participate and signed the consent form. Probability proportionate to size was used to determine the minimum number of Obstetric Care Provider to participate from each selected facility as shown in Table 1.

Table 1: Calculated Sample Size for Obstetric Care Providers at Six Health Facilities at BHD

Health facility	Estimated population, 2025	Proportion	Probability proportionate to size	Actual sample size obtained
Bonassama District Hospital	17	0.283	16	16
CMA Sodiko	6	0.100	6	6
St. Albert Le Grande Catholic Hospital	12	0.200	12	12
Hope Services Hospital	10	0.166	9	10
Centre Medical Marie-Mere (ASAS)	10	0.166	9	10
Wisdom clinic	5	0.083	5	5
Total	60		58	59

For the retrospective study, consecutive sampling technique was used to select medical records of parturients where a total of 246 medical records were reviewed.

Data on socio-demographic data (age, gender, years of experience, health facility and educational level), knowledge and factors influencing the use of partograph was collected using a structured questionnaire. The questionnaire was developed using guidelines from WHO standard questionnaire on partograph and some previous studies. Similarly, data on the level of utilisation was collected using a structured data extraction form. Obstetric care providers' knowledge was assessed using a total of 12 questions with a maximum obtainable score of 12. The overall level of knowledge was categorised as good or poor; the cutoff point for good knowledge was 60% while below 60% was considered poor knowledge. This scoring system was adapted from previous studies carried out in Cameroon [20, 21, 22]. Similarly, a score of 1 was assigned to a filled partograph in the parturient's record and a score of 0 to an unfilled partograph in order

to get level of utilisation. To identify the factors associated to use, a simple logistic regression model was used for bivariate and multivariate analyses. The questionnaire was pretested on six obstetric care providers working at St. Padre-Pio Hospital Akwa-Nord Douala in order to validate the study questions. Two data collectors were trained using the adult learning method in order to assist the principal investigator in data collection.

Data generated from the study was entered into Microsoft Excel 2016 spreadsheet and analysed using IBM SPSS version 26.0. Both descriptive and inferential statistical analyses were employed. Continuous variables were summarised using means and standard deviations while categorical variables were presented in charts and frequency tables. A Chi-square test was used to determine the strength of the association between variables. For the identification of associated factors, a simple logistic regression model was used for bivariate analysis at cutoff $p < 0.2$ to select possible factors to be sent for multivariate

analysis. Following that, a multi-variable binary logistic regression model was used to determine the significant factors. A p-value <0.05 was considered statistically significant.

RESULTS

Fifty-nine (59) obstetric care providers across six health facilities participated in the study. The most represented age groups 18 (30.5%) participants each were 31–35 years and 36–40 years with the mean age being 32 (SD=6.11). The highest number of participants worked at Bonassama District Hospital, 16 (27.1%) and 54(91.5%) of the participants were females while 16 (27.1%) of the participants had obtained a Bachelor's Degree in Midwifery. 20 (34.0%) of the participants had 4–6 years of experience working at the maternity unit (Table 2).

Most of the obstetric care providers, 47 (79.7%) of the participants stated that, the partograph is a simple graphic tool used to record the progress of labour and monitor the condition of both mother and fetus. Similarly,

more than half 34 (57.6%) of the participants indicated that the partograph helps to identify the risk of labour complications and assess progress. Regarding when to start using the partograph, 44(74.6%) correctly said the active phase of labour is the appropriate time and 45(76.3%) of the participants indicated that, the first section to fill on the partograph is the identification of the patient. When asked about fetal heart rate (FHR) monitoring frequency, 43(72.9%) stated every 30 minutes. Similarly, 29 (49.2%) of the participants said uterine contractions should be recorded every 1 hour. Concerning the function of the action line, 48 (81.4%) of the participants understood that, it signals when intervention is needed and 24(40.7%) correctly identified that a plot after the action line signifies poor progress of labour. The cutoff point for good knowledge was 60%. Overall, 34 (58%) participants had poor knowledge on partograph with a mean knowledge score of 7.0 ± 1.72 (Table 3).

Table 2: Socio-demographic Characteristics of Obstetric Care Providers in Bonassama Health District

Variable	Category	n (%)
Health Facility		
Private Sector	Centre Medical Marie-Mere Grand Hangar (ASAS)	10 (16.9)
	Hope Services Clinic	10 (16.9)
	Wisdom Clinic Bojongo	5 (8.5)
Mission Sector	St Albert Catholic Hospital	12 (20.3)
Government Sector	BDH	16 (27.1)
	CMA Sodiko	6 (10.2)
	Total	59 (100)
Age Group (Years)	21-25	6 (10.2)
	26-30	9 (15.3)
	31-35	18 (30.5)
	36-40	18 (30.5)
	≥41	8 (13.6)
	Total	59 (100)
Gender	Female	54 (91.5)
	Male	5 (8.5)
	Total	59 (100)
Level of Education	Postgraduate	11 (18.6)
	BMWS	16 (27.1)
	BNS	11 (18.6)
	HND Midwifery	6 (10.2)
	HND Nursing	7 (11.9)
	SRN	8 (13.6)
	Total	59 (100)

Years of Experience in Maternity	0- 3	18 (30.5)
	4-6	20 (34.0)
	7-10	11 (18.6)
	≥10	10 (16.9)
	Total	59 (100)

Mean age $\pm$ SD: 32 $\pm$ 6.11

Table 3: Knowledge on Partograph among Obstetric Care Providers in Bonassama Health District

Variable	Category	n (%)
Definition of Partograph	Chart to monitor labour by Midwives	6 (10.2)
	Complex tool used by Midwives	6 (10.2)
	Simple graphic tool	47 (79.7)
	Total	59 (100)
Use of Partograph	To complete labour history	1 (1.7)
	To identify labour risk	34 (57.6)
	All of above	24 (40.7)
	Total	59 (100)
When to begin Filling the Partograph	Active phase of labour	44 (74.6)
	Reception of client	14 (23.7)
	Rupture of membranes	1 (1.7)
	Total	59 (100)
Part to Fill first	Cervical dilatation	5 (8.5)
	FHR	4 (6.8)
	Identification of patient	45 (76.3)
	Vital signs	5 (8.5)
	Total	59 (100)
FHR Record	30 Mins	43 (72.9)
	1 Hour	8 (13.6)
	2 Hours	6 (10.2)
	4 Hours	2 (3.4)
	Total	59 (100)
Contraction Record	30 Minutes	26 (44.1)
	1 Hour	29 (49.2)
	2 Hours	4 (6.8)
	Total	59 (100)
Action Line Function	Indicate when intervention is needed	48 (81.4)
	When active phase begin	4 (6.8)
	None of the Above	7 (11.9)
	Total	59 (100)
Alert Line Function	Inform Gynecology	1 (1.7)
	Normal progress of labour	35 (59.3)
	Prepare for C/S	4 (6.8)

	Slow progress of labour	15 (25.4)	
	I don't know	4 (6.8)	
	Total	59 (100)	
Poor Labour Progress	Plot is after action line	24 (40.7)	
	Plot is between alert and action line	23 (39)	
	Plot is left of alert line	5 (8.5)	
	I don't know	7 (11.9)	
	Total	59 (100)	

Partograph utilisation varied across the six participating health facilities. A total of 246 deliveries were reported from the six health facilities, where 177 partographs were used making the level of utilization of partograph at 72%. The level of partograph use at the Government, Mission and Private health facilities was 70.6%, 92.9% and 56.3% respectively. There was a significant association between partograph utilization and health facilities ($\chi^2 = 15.12$, $p = <0.001$) (Table 4). There was no statistical association between use of partograph and knowledge among the participants ($p = 0.354$). 54.2% and 52.5% of the participants reported that lack of training and lack of supervision were some factors, which influenced their use of the partograph respectively. More than half 40 (67.8%) of the participants said late reception of clients was not a major issue, and 41 (69.5%) did not attribute poor staff

strength as a barrier (Table 5). Following multivariable binary logistic regression analysis, three variables were found to be independently associated with use of the partograph. Obstetric care providers with an HND in Nursing (aOR = 0.03; 95% CI: 0.002–0.51; $p = 0.015$) and Bachelor of Nursing Science (aOR = 0.12; 95% CI: 0.015–0.97; $p = 0.046$) had lower odds of using partograph as compared to those with a Bachelor's in Midwifery. Those with 4–6 years of experience were seven times more likely to use partograph as compared to those with 0–3 years of experience (aOR = 7.25, 95% CI: 1.16–45.24, $p = 0.034$). Participants who had no access to partograph charts in their ward were less likely to use (aOR = 0.22; 95% CI: 0.05–0.99; $p = 0.048$) compared to those with partograph availability (Table 6).

Table 4: Association between Partograph Utilisation across Health Facilities

Variables	Partograph Used n (%)	Partograph Not Used n (%)	Chi-square	p-value
Private	36 (56.3)	28 (43.8)	15.12	<0.001
Mission	52 (92.9)	4 (7.1)		
Government	89 (70.6)	37 (29.4)		
Total	177 (71.9)	69 (28.1)		

Table 5: Institutional Factors Influencing Use of Partograph among Obstetric Care Providers

Variables	Category		Total (%)
	Yes	No	
	n (%)	n (%)	
No Partograph in Ward	18 (30.5)	41 (69.5)	59 (100)
Lack of Training	32 (54.2)	27 (45.8)	59 (100)
Lack of Supervision	31 (52.5)	28 (47.5)	59 (100)
Late Reception	19 (32.2)	40 (67.8)	59 (100)
Poor Staff Strength	18 (30.5)	41 (69.5)	59 (100)
Work Overload	41 (69.5)	18 (30.5)	59 (100)

Table 6: Factors Associated with Obstetric Care Providers Use of Partograph

Variable	Category	Use of Partograph		cOR	95% CI (Lower - Upper)	p-value
		Yes n (%)	No n (%)			

Level of Education	SRN	3 (5.1)	5 (8.5)	0.141	0.016 — 1.238	0.077
	Postgraduate	6 (10.2)	5 (8.5)	0.334	0.052 — 2.161	0.251
	HND Nursing	1 (1.7)	6 (10.2)	0.034	0.002 — 0.511	0.015
	HND Midwifery	2 (3.4)	4 (6.8)	0.122	0.012 — 1.242	0.076
	BNS	2 (3.4)	9 (15.3)	0.122	0.015 — 0.968	0.046
	BMWS	11 (18.6)	5 (8.5)	1.000		
Years of Experience	≥10	4 (6.8)	6 (10.2)	4.846	0.581 — 40.408	0.145
	7-10	5 (8.5)	6 (10.2)	4.278	0.525 — 34.867	0.175
	4-6	10 (17.0)	9 (15.3)	7.248	1.161 — 45.244	0.034
	0-3	6 (10.2)	13 (22.0)	1.000		
No Partograph in Ward	Yes	21 (35.6)	14 (23.7)	0.219	0.049 — 0.987	0.048
	No	4 (6.8)	20 (33.9)	1.000		
Difficult to Fill	Yes	11 (18.6)	20 (33.9)	0.237	0.049 — 1.153	0.074
	No	14 (23.7)	14 (23.7)	1.000		

DISCUSSION

This study assessed the level of knowledge, utilisation and factors influencing the use of partograph among Obstetric Care Providers at Bonassama Health District. This is in order to produce findings, which could inform the design of evidence-based interventions aimed at enhancing the use of the partogram in monitoring labour and ultimately contribute to improved maternal and neonatal outcomes in the Bonassama Health District in particular and Cameroon in general.

The study revealed that only about one third of Obstetric Care Providers (OCP) had good knowledge of the partograph. This could be due to the fact that most of the OCP were diploma and degree nurses with few years of experience with little or no training on the use of partograph. This finding is in accordance with that of a study carried out in the North West and South West Regions of Cameroon which revealed that, less than one-third (29.6%) of the respondents had detailed knowledge on partograph and its components [6]. Again, this finding disagrees with the findings of several other studies in Nigeria [23] where two-third of their participants had good knowledge. In Cameroon, midwives and nurses constitute the bulk of Obstetric Care Providers; hence, it is vital for them to constantly update their knowledge on utilising the partograph as one of the significant measures in reducing maternal mortality rate in the country.

However, the findings of our study revealed that most of the Obstetric Care Providers (OCPs) knew what a partograph is and more than half could identify its use. This data is comparable with a study in Rwanda, which showed that

most of the nurses and midwives correctly identified the definition of partograph while more than three-quarters knew its role [13]. In addition, the study showed that more than half and about three-quarter of our participants had satisfactory knowledge on the functions of the alert and action lines respectively. The number participants with satisfactory knowledge in our study was lower than that obtained in the study conducted in Kenya [12]. Also, our finding disagrees with the finding of the study conducted in Cameroon [17] where their participants lacked detailed information on components of the partograph as well as functions of the alert and action lines. It is what stating that adequate knowledge on the important details of the partograph is very vital in monitoring labour, because lack of knowledge can lead to poor outcomes. According to a cohort study conducted in Sweden, neonatal asphyxia and uterine complications were reported to be associated with high rates of synthetic oxytocin administration during spontaneous labour, thus demonstrating concerns about the broad use of oxytocin without strict monitoring and partograph indications [24]. Knowledge on the components of the partograph and its use will likely enhance use of partograph among OCPs. Most of the participants could identify when to begin filling the partograph, which is the active phase of labour. This finding is in line with the findings of several studies done in Ethiopia [1, 25]. The World Health Organisation guideline indicates that, filling of the partograph should begin at the active phase of labour (5 cm).

Furthermore, our study revealed that less than half of the participants mentioned that when the plot falls between the alert and action lines, it indicates poor progress of

labour. Our study finding is not in accordance with those of studies conducted in Bhutan [2], which revealed that most of their participants could correctly identify the normal progress of labour.

All the health facilities had partographs present in their labour rooms and used them to monitor labour. However, one facility lacked the modified WHO partograph. This implies more health facilities recognised the importance of a partograph in improving labour outcomes. This finding can be comparable to those obtained in Ethiopia [26] and South Africa [16] reported that all the health units had partographs available including the modified WHO version. Our finding contrasts that of a study done in Bamenda Health District where only three out of the seven selected health facilities used partograph to monitor labour [6]. Out of the 246 deliveries that was recorded in all six facilities, 177 deliveries were monitored with the use of a partograph. This gave an overall utilisation rate of 72%. This finding is similar with the 79.9% reported in Bafut Health District, Cameroon [8] and 73.3% report found in a study carried out in Tigray, Ethiopia [18]. This could be because of increase supervision and in-service training by higher authorities. Other studies showed average utilisation rates; 54.4% in Nigeria [27] and 57.4% in Kenya [28]. It is worth noting that, utilisation level was higher at the mission facility than the government and private facilities. There was a significant association between partograph utilisation and health facilities ($\chi^2=15.12$, $p < 0.001$). This implies that patients in mission hospitals are more likely to benefit from the positive outcomes of using partographs than their counterparts. The finding suggests the need for proper institutional monitoring and unexpected supervision to ensure maximum utilisation of partograph at the government and private facilities.

Less than half of the participants accepted that the unavailability of the partographs in the ward could affect their use. In addition, it was discovered that participants who had no access to partograph charts in their ward were less likely to use (aOR = 0.22; 95% CI: 0.05–0.99; $p = 0.048$) compared to those having partographs. On the contrary, the study conducted in Bamenda Health District in Cameroon, which showed that most of the participants identified unavailability of partograph as one of the barriers that affected its use [6]. Also, our finding was not in line with that of the study conducted in the North West and South West Regions of Cameroon which found that only 6.3% of respondents who used the partograph stated its unavailability as a reason for its non-routine utilisation [17]. Education at university level and profession were significant predictors of Obstetric Care Providers' use of partograph. Obstetric Care Providers with an HND in Nursing (aOR = 0.03; 95% CI: 0.002–0.51; $p = 0.015$) and

Bachelor of Nursing Science (aOR = 0.12; 95% CI: 0.015–0.97; $p = 0.046$) had lower odds of using partograph as compared to those with a Bachelor's in Midwifery. These findings are consistent with those found in Tanzania [29], Central Ethiopia [30] and Northwest Ethiopia [18]. This necessitates more training and integration of Midwives into the health system who can routinely use the partograph.

Number of years of professional experience was another factor, which influenced use of the partograph. Our study found that those with four to six years of experience were seven times more likely to use partograph as compared to those with zero to three years of experience (aOR = 7.25, 95% CI: 1.16–45.24, $p = 0.034$). This can be attributed to the fact that the more years of professional experience the OCPs have in the maternity, the more likely they are to use the partograph. This is similar to findings from studies carried out in Rwanda [14]. Our study revealed that almost three quarter of most of our participants did not mention the shortage of staff as a factor, which could affect the utilisation of the partograph in the management of labour. Our finding disagrees with those of studies conducted in Nigeria [31], Cameroon [17] and Ethiopia [32]. This reflects the high utilisation level noticed in almost all of the health facilities. Thus, by implication this finding indicates that the more OCPs assigned per shift, the more likely it is that they will use the partograph during labour by dividing tasks. This therefore informs the need for every health authority to put in place appropriate measures that will ensure the recruitment of more obstetric care providers in their facilities to improve efficiency in using the partograph.

CONCLUSION

The level of knowledge on partograph among the participants at Bonassama Health District, Douala was found to be poor. The results of the study further revealed a high level of utilisation of partograph across the health facilities. Profession, years of experience and unavailability of partographs in the ward were factors, which influenced the use of partograph. Therefore, all obstetric care providers should be subjected to more intensive periodic on-job refresher courses through unit presentations, seminars, and workshops on partograph in order to improve their knowledge. In addition, partograph charts should be made available to Obstetric Care Providers by attaching them to medical records, especially for those working in private health facilities in Cameroon.

LIMITATIONS OF THE STUDY

This study was not able to show the extent of partograph use for monitoring labour progress. The partograph might have been used only to record events in labour rather than to guide the management of labour. In addition, authorisation

was not obtained from Bonaberi Baptist Hospital; thus, there was no equal distribution of government, mission, and private health facilities. However, the results obtained are of significant importance to the field of nursing and nurses.

Consent

The study was reviewed and received Ethical Approval from the Institutional Review Board of the Faculty of Health Sciences, University of Buea and all the participants gave written consent before participating in the study.

Acknowledgements

Our gratitude goes to all the participants of this study and the administrative authorities of the health facilities in Bonassama Health District, Cameroon.

Authors' Contribution

The first, second and last authors participated at all levels of the study from its commencement to writing. That is, conception and design, acquisition of data, analysis and interpretation of data as well as drafting and or revising and approving the final manuscript. Eta C contributed in the introduction and discussion sections of the manuscript, and Obi A. Enu-Ma analysed the data.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

REFERENCES

1. Dola MI, Zewdie HE. Level of partograph utilization and associated factors among obstetric caregivers in public health facilities of Hawassa city administration, Sidama state, Ethiopia. *MOJ Public Health*. 2022;11(3):170-177. doi: 10.15406/mojph.2022.11.00396.
2. Choden K, Dorji N. Knowledge, attitude and practice of nurse-midwives on the use of partograph in health care centres of Bhutan. *Bhutan Health J*. 2021 May;7(1):114-117.
3. World Health Organization. The global health observatory, SDG Target 3.1 maternal mortality. 2024;. Available from: <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/4622>.
4. Mukisa J, Grant I, Magala J, Ssemata AS, Lumala PZ, Byamugisha J. Level of partograph completion and healthcare workers' perspectives on its use in Mulago national referral and teaching hospital, Kampala, Uganda. *BMC Health Serv Res*. 2019;19:107.
5. Egbe TO, Ncham EN, Takang W, Egbe E-N, Halle-Ekane GE. Use of the partogram in the Bamenda Health District, North-west Region, Cameroon: a cross-sectional study. *Gynecol Obstet Res Open J*. 2016;2(5):102-111.
6. Nyiawung FN, Amin ET, Fondungallah JA, Egbe TO. The partogram: knowledge, attitude and use by healthcare providers at two hospitals in the South West Region of Cameroon. *Arch Community Med Public Health*. 2018;4(2):073-077.
7. Ako TW, Florent FY, Obichemti ET, Arsene AT. Attitudes, practices and factors affecting the use of the partogram by professionals attending to women in labour and delivery in the Bafut Health District. *Open J Obstet Gynecol*. 2022;12:863-86.
8. Mandiwa C, Zamawe C. Documentation of the partograph in assessing the progress of labour by health care providers in Malawi's South-West zone. *Reprod Health*. 2017;14:134.
9. Masika MA, Katongole SP, Govule P. Improving Partograph Documentation and Use by Health Workers of Bwera Hospital: A Process Improvement Research. *Int J Nurs Health Sci*. 2015;2(4):37-45.
10. Wakgari N, Tessema GA, Amano A. Knowledge of partograph and its associated factors among obstetric care providers in North Shoa Zone, Central Ethiopia. *BMC Res Notes*. 2015 Sep;8:407.
11. Opiah MM, Ofi AB, Essien EJ, Monjok E. Knowledge and utilization of the partograph among midwives in the Niger Delta Region of Nigeria. *Afr J Reprod Health*. 2012 Mar;16(1):125.
12. Mwari PS, Gitonga LK, Mukhwana ES. Assessment of the midwives knowledge on utilization of partograph in management of labour in public health facilities in Tharaka Nithi County. *Int J Health Sci Res*. 2021;11(12):167-175. doi.org/10.52403/ijhsr.20211223
13. Bazirete O, Mbombo N, Adejumo O. Utilisation of the partogram among nurses and midwives in selected health facilities in the Eastern Province of Rwanda. *Curationis*. 2017 ;40(1):a1751.
14. Githae MA, Jo B. Utilization of Partograph in the management of women in labor among nurses working in Embu County, Kenya. *Nurs Healthc Int J*. 2019;3(2):000181.
15. Kujabi ML, et al. Labor augmentation with oxytocin in low- and lower-middle-income countries: a systematic review and meta-analysis. *AJOG Glob Rep*. 2022;2(3):100045.
16. Mabasa SKM, Matsipane MJ, Useh U. Utilisation of partogram at a district in the north west province, South Africa. *Health SA Gesondheid*. 2024;29(0):a2175.
17. Sama C, Takah NF, Danwe VK, Melo UF, Dingana TN, Angwafo FF, III. Knowledge and utilization of the

- partograph: A cross-sectional survey among obstetric care providers in urban referral Public Health Institutions in Northwest and Southwest Cameroon. PLoS ONE. 2017;12(2):e0172860.
18. Zelellw DA, Tegegne TK. Level of partograph utilization and its associated factors among obstetric caregivers at public health facilities in East Gojam Zone, Northwest Ethiopia. PLoS ONE. 2018 Jun;13(7):e0200479. <https://doi.org/10.1371/journal.pone.0200479>
 19. Haile Y, Tafese F, Weldemariam TD, Rad MH. Partograph Utilization and Associated Factors among Obstetric Care Providers at Public Health Facilities in Hadiya Zone, Southern Ethiopia. J Pregnancy. 2020;2020:3943498. doi.org/10.1155/2020/3943498
 20. Bedada KE, Huluka TK, Bulto GA, Roga EY. Low Utilization of Partograph and Its Associated Factors among Obstetric Care Providers in Governmental Health Facilities at West Shoa Zone, Central Ethiopia. Int J Reprod Med. 2020;3738673. doi.org/10.1155/2020/3738673
 21. Elendu C, Davidson G, Wali JN, Sampson GU, Eneyo US, Ebosie PE, et al. Barriers and incentives influencing the use of partograph in Nigeria: A comprehensive review. Medicine (Baltimore). 2024 May 31;103(22):e38389.
 22. Adamolekun PA, Osaji T, Adeyanju AB. Knowledge and utilization levels of partograph in management of labour amongst midwives in selected health facilities in Akure, Ondo State. Afr J Health Nurs Midwifery. 2021;4(6):101-118.
 23. Johnson K, Johansson K, Elvander C, Saltvedt S, Edqvist M. Variations in the use of oxytocin for augmentation of labour in Sweden: a population-based cohort study. Sci Rep. 2024;14:17483. [doi:10.1038/s41598-024-68517-1](https://doi.org/10.1038/s41598-024-68517-1)
 24. Abebe F, Birhanu D, Awoke W, Ejigu T. Assessment of knowledge and utilization of the partograph among health professionals in Amhara Region, Ethiopia. Sci J Clin Med. 2013;2(2):26-42. [doi: 10.11648/j.sjcm.20130202.1](https://doi.org/10.11648/j.sjcm.20130202.1)
 25. Yisma BD. Completion of the modified World Health Organization (WHO) partograph during labour in Public Health Institutions of Addis Ababa, Ethiopia. Reprod Health. 2013;10:23.
 26. Zelellw DA, Tegegne TK. Level of partograph utilization and its associated factors among obstetric caregivers at public health facilities in East Gojam Zone, Northwest Ethiopia. PLoS ONE. 2018 Jun;13(7):e0200479. <https://doi.org/10.1371/journal.pone.0200479>
 27. Dauda RS, Ndikom CM, Galaboyi JY, Okpaleke M, Okedo HA, Abdulhameed MA. Knowledge and attitude towards utilisation of partograph among midwives in selected hospitals in Gombe State, Nigeria. Afr J Health Nurs Midwifery. 2024;7(4):59-71.
 28. Osidimbea, Commune d'arrondissement de Douala IV. 2022. Available at: <https://www.osidimbea.cm/collectivites/littoral/douala-4-commune/>
 29. Elendu C, Davidson G, Wali JN, Sampson GU, Eneyo US, Ebosie PE, et al. Barriers and incentives influencing the use of partograph in Nigeria: A comprehensive review. Medicine (Baltimore). 2024 May 31;103(22):e38389.
 30. Adamolekun PA, Osaji T, Adeyanju AB. Knowledge and utilization levels of partograph in management of labour amongst midwives in selected health facilities in Akure, Ondo State. Afr J Health Nurs Midwifery. 2021;4(6):101-118.
 31. Peter DE, Millanzi WC, Joho AA. Practice and factors influencing partograph utilization on the delivery of nursing care. an analytical cross-sectional study in Singida, Tanzania. Res Sq J. 2022;7(4):1-19.
 32. Mezmur H, Semahegn A, Tegegne BS. Health professional's knowledge and use of the partograph in public health institutions in eastern Ethiopia: a cross-sectional study. BMC Pregnancy Childbirth. 2017;17:291. doi.org/10.1186/s12884-017-1477-3

Cite this article: Bende, Ph.D., et al; *Level of Knowledge, Utilisation and Factors Influencing the Use of Partograph among Obstetric Care Providers at Bonassama Health District Douala, Cameroon International Journal of Research in Medical and Clinical Science (IJRMCS) Online ISSN:2997-6189 2026; 4(2): 18-27.*

Copyright: © 2026. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.