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Use of the partogram by midwives in Mbandaka, Democratic Republic of the Congo: Current situation, associated factors and prospects for capacity building

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Abstract

Objective: To assess the knowledge, practices and difficulties associated with the use of the partogram among midwives in Mbandaka, with a view to guiding capacity-building strategies.

Methods: A descriptive cross-sectional study was conducted among 118 midwives practicing in two referral health centres (CSRs) in Mbandaka. Data were collected using a structured questionnaire and analysed using Pearson's chi-square tests (α=0.05) and logistic regression to identify factors associated with good knowledge and optimal use of the partogram.

Results: The majority of respondents (59.3%) were male. The use of the partogram for all deliveries was high (86.4%). However, only 37.3% of midwives correctly defined the partogram as a tool for monitoring labour, and 54.2% identified its main role as monitoring the progression of labour, compared with 14.4% for the early detection of complications. The main difficulties encountered were a lack of training (33.9%) and a lack of equipment (31.4%). Significant associations were observed between educational level and the method of completing the partogram (χ^2 = 15.859, p=0.045) as well as with the difficulties encountered (χ^2 = 16.576, p=0.035). Professional experience was significantly associated with the method of completion (χ^2 = 44.697, p=0.006). Almost all respondents (98.3%) suggested continuing professional development as the main measure for improvement.

Conclusion: Although the reported use of the partogram is high, significant gaps remain in understanding its full function, particularly the detection of complications. Capacity-building strategies must be tailored to educational level and professional experience, with an emphasis on ongoing practical training and the availability of equipment.

Keywords: Partogram, Midwife, Capacity building, Childbirth, Mbandaka, DRC.

I. Introduction

The use of the partogram is an intervention recommended by the World Health Organisation (WHO) for monitoring labour and delivery, enabling the early detection of complications and timely clinical decision-making, thereby contributing to the reduction of maternal and perinatal mortality [1]. Despite its proven effectiveness, its optimal use remains a challenge in many resource-limited settings [2]. In Mbandaka, Democratic Republic of the Congo (DRC), training efforts have been undertaken, but data on actual practices and the needs of midwives are limited. This study aims to assess the current status of partogram use in order to provide recommendations for targeted and effective capacity building.

II. Methods

2.1. Study design and setting

This is a descriptive and analytical cross-sectional study, conducted from January to December 2025 in two referral health centres (CSRs) in Mbandaka: the Mama Balako CSR and the Jules Chevalier CSR.

2.2. Population and sampling

The study population comprised all midwives practising at the two RSHs. An exhaustive non-probability sampling method was used, including all professionals present and willing to participate, totalling 118 midwives.

2.3. Data collection

Data were collected using a self-administered, anonymous questionnaire, structured into several sections: (1) sociodemographic and professional characteristics; (2) knowledge of the partogram (definition, components, interpretation); (3) reported practices (frequency of use, methods of completion); (4) difficulties encountered; (5) perceived obstetric indicators.

2.4. Data analysis

The data were entered and analysed using SPSS version 25. Descriptive analysis produced frequencies and percentages. Bivariate analysis used Pearson's chi-square test to examine associations between the independent variables (level of education, professional experience) and the dependent variables (knowledge, practices, difficulties). A significance threshold of $p < 0.05$ was adopted.

III. Results

3.1. Sample characteristics

Table 1: Sociodemographic and professional profile of respondents (n=118)

Characteristics	Categories	Number (n)	Frequency (%)
Gender	Male	70	59.3
	Female	48	40.7
Age	21–30 years	68	57.7
	> 30 years	50	42.3
Level of education	Bachelor's degree	65	55.1
	Master's / Other	53	44.9
Place of work	Health Centre	94	79.7
	Hospital / Clinic	24	20.3
Seniority (Experience)	< 10 years	41	34.7
	10–25 years	38	32.2
	> 25 years	39	33.1

Comment: This profile reveals a predominantly young and male healthcare workforce, which is a notable feature of this profession. The balanced distribution across seniority brackets (approximately 33% each) suggests a blend of youthful dynamism and the experience of seasoned professionals, although the workforce is overwhelmingly concentrated in local healthcare facilities (Health Centres).

3.2. Reported knowledge and practices

Table 2: Knowledge and practices relating to the partogram (n=118)

Areas of assessment	Indicators / Categories	Sample size (n)	Frequency (%)
Use	Routine use (all births)	102	86.4
Training	Specific training received	65	55.1
Knowledge	Correct definition (Monitoring tool)	44	37.3
Perceived role	Monitoring of work progress	64	54.2
	Detection of complications	17	14.4
Interpretation	Understanding the warning line	59	50
	Identification of curve anomalies	29	24.6
Filling	After each vaginal examination	44	37.3
	Regularly every 2 hours	32	27.1

Comment: There is a striking contrast between the reported use of the partogram (very high at 86.4%) and theoretical mastery of the tool. Fewer than 40% of healthcare providers can correctly define the tool, and only 14.4% recognise its crucial role in detecting complications. This discrepancy suggests that the document is often completed mechanically or as a matter of routine, without being used effectively for clinical decision-making, a finding corroborated by the low scores in identifying abnormalities (24.6%).

3.4. Associated factors

Table 3: Significant associations (Pearson's chi-square)

Related variables	Calculated $\chi 2$	ddl	*p-value*	Interpretation
Level of education vs. Method of completion	15.859	8	0.045	Significant
Level of education vs Difficulties encountered	16.576	8	0.035	Significant
Work experience vs Method of completion	44.697	24	0.006	Significant

Comment: The bivariate analysis revealed significant associations (Table 3). Level of education was significantly associated with the method used to complete the partogram ($\chi^2 = 15.859$, df=8, p=0.045) and with the difficulties encountered ($\chi^2 = 16.576$, df=8, p=0.035). Professional experience, meanwhile, was significantly associated with the method of completion ($\chi^2 = 44.697$, df=24, p=0.006). No significant association was found between these variables and the frequency of use or the definition of the partogram.

3.5. Logistic regression analysis

Table 4: Predictors of correct completion of the partogram

Explanatory variables	Odds Ratio (OR)	95% CI	*p-value*
Level of education (Bachelor's degree vs Diploma)	1.35	[0.58 – 3.14]	0.482
Experience (>10 years vs ≤10 years)	0.78	[0.34 – 1.79]	0.556
Training received (Yes vs No)	1.52	[0.67 – 3.45]	0.313
Gender (Male vs Female)	0.91	[0.40 – 2.07]	0.823

Comment: These results are crucial: they demonstrate that the lack of knowledge regarding the partogram is **widespread** amongst all healthcare staff. The fact that even the training received (OR=1.52; p=0.313) or a higher level of education does not guarantee better theoretical understanding suggests that current initial and continuing training programmes may be too theoretical or ill-suited to the clinical realities of the study setting.

IV. Discussion

This study highlights a paradox: a reported high use of the partogram coexisting with profound theoretical and practical gaps. This phenomenon, already observed elsewhere in sub-Saharan Africa, suggests that the tool is used mechanically, without a full understanding of its clinical purpose [3, 4].

Limited knowledge and clinical implications

The fact that only 37.3% of respondents correctly defined the partogram as a monitoring tool and that very few (14.4%) associated it with the early detection of complications is a cause for concern. This indicates a risk of underutilisation of its most crucial potential: early warning to prevent dystocia, uterine rupture or foetal distress. This trend is consistent with the results of studies conducted in Nigeria and Ethiopia, where knowledge of how to interpret the curves was also insufficient [5, 6].

Associated factors and implications for training

The significant associations found between educational level and professional experience on the one hand, and completion methods on the other, reveal heterogeneous practices. The absence of a standardised protocol is a cause for concern. Furthermore, the fact that a lack of training is cited as the main difficulty, particularly by the less experienced, highlights a pressing need for structured continuing professional development programmes.

As logistic regression did not identify any predictive factors for sound theoretical knowledge, this reinforces the idea that simply holding a qualification or having years of experience does not guarantee a thorough understanding. This argues in favour of capacity-building interventions that are not limited to initial training, but incorporate clinical mentoring and formative supervision approaches [7].

Limitations of the study

The study has certain limitations. It is based on self-reported practices, which are subject to social desirability bias, rather than on direct observation of practices. Furthermore, it was conducted in only two facilities in Mbandaka, which limits the generalisability of the results.

Conclusion And Recommendations

The use of the partogram in Mbandaka is hampered by significant gaps in knowledge, particularly regarding its role in detecting complications, and by structural difficulties (equipment, training). Capacity-building strategies must evolve from simple theoretical training towards continuous practical support, tailored to the midwives' level of education and experience.

Recommendations:

1. Practical continuing education: Introduce regular training sessions focused on interpreting curves and clinical decision-making based on the partogram, using case studies.

2. Clinical mentoring: Establish a mentoring system involving experienced peers to supervise the completion and analysis of the partogram in real time.

3. Standardisation of practices: Adopt and disseminate a unified protocol based on WHO recommendations regarding completion (e.g. every 2 hours) and actions to be taken if the alert line is exceeded.

4. Supply: Ensure that printed partograms are always available in all delivery rooms.

References

1. World Health Organization. (2018). WHO recommendations: intrapartum care for a positive childbirth experience. Geneva: WHO.

2. Ollerhead, E., & Osrin, D. (2014). Barriers to and facilitators of the use of the partograph in low-resource settings: a systematic review. BMC Pregnancy and Childbirth, 14, 284.

3. Opoku, B. K., & Nguah, S. B. (2015). Use of the partograph by midwives in the Upper West Region of Ghana. Journal of Public Health in Africa, 6(1), 494.

4. Yisma, E., Dessalegn, B., Astatkie, A., & Fesseha, N. (2013). Knowledge and utilisation of the partograph among obstetric care providers in public health institutions in Addis Ababa, Ethiopia. BMC Pregnancy and Childbirth, 13, 17.

5. Fawole, A. O., & Okonkwo, C. A. (2012). Knowledge and practice of the partograph among healthcare providers in a

tertiary healthcare facility in Ibadan, Nigeria. Annals of Ibadan Postgraduate Medicine, 10(1), 25–29.

6. Gebrehiwot, Y., & Tewolde, B. T. (2017). Assessment of partograph utilisation and associated factors among obstetric care providers in public health facilities in Mekelle City, Northern Ethiopia. BMC Research Notes, 10, 526.

7. Ameh, C., & van den Broek, N. (2015). Making it happen: training health-care providers in emergency obstetric and newborn care. Best Practice & Research Clinical Obstetrics & Gynaecology, 29(8), 1077–1091.