Completeness of Partographs used by Midwives in a Sub County Hospital in Kenya

Jonah Kipngetich Sigei

Correspondence Email: sigeijonah1974@gmail.com

Abstract

Background: The partograph is a tool used globally to record labour progress and identify any complications early. Although it has the potential to improve maternal and fetal outcomes it is not used effectively and correctly by midwives thus poor labor outcomes. The world health organization (WHO) recommends using it with the objective to improve health care and reduce maternal and fetal morbidity and death. The objective was to determine completeness of partograph use among midwives at Kapkatet sub county hospital.

Methodology: It was a cross-sectional study design involving qualitative and quantitative approaches where 177 partographs were audited and 15 midwives interviewed. Data was collected using questionnaires, in-depth interview schedules and observation checklist. This paper only reports the quantitative findings.

Findings: Out of the 177 partographs audited,44.9(25.4%) were complete and on admission data, date and time was done on 112(63.3%) partographs, mothers name was documented on 149(84.2%) while parity, gravidity was evident on 105(59.3%) and 61(35%) respectively. Cervical dilatation and descent were documented in 131(74%) and 96(54%) respectively. Moulding and caput were documented in this uterine contraction at 87(49.7%) and blood pressure at 23(46.9%). There was a significant relationship between importance of the partograph in labor management and frequency of use of partograph ($\chi 2=12.000$, $p=0.030$).

Conclusion: Factors hindering completeness were increased workload, inefficient supervision, poor attitude, lack of motivation and supervision. Adequate training, supervision, motivation and improvement of midwife: patient ratio should be enhanced to improve on partograph completeness.

Key Words: Partograph, completeness, perception, midwives

Background

The imperative to improve maternal health is currently a major issue on the international scene. This recognition is expressed as sustainable development goal 3 (3.1); to reduce global maternal mortality to less than 70 per 100,000 (WHO, 2017).The need to improve maternal health is based on the large number of maternal deaths in Kenya estimated to be 362 per 100,000 (WHO, 2013). The greatest burden of maternal mortality is in sub-Saharan Africa. Every year 4,000,000 neonates die worldwide and 1,000,000 are fresh still births. One thousand women die every day from pregnancy or childbirth related complications worldwide (Hogan & Naghavi, 2010). Majority of these deaths in low income countries occur from complications of eclampsia, prolonged labor, obstructed labour, hemorrhage and sepsis. When partograph is utilized as part of labour surveillance in low income countries it reduces early neonatal deaths by 40 % and 10-12% of these deaths are due to prolonged/obstructed labour which

is one of the underlying causes of ruptured uterus, hemorrhage, sepsis and obstetric fistulas (Darmstadt, 2009). The use of a partograph is a well known best practice for quality monitoring of labour thus prevention of obstructed and prolonged labour (WHO, 2005).

Concern has been raised about the quality of intrapartum care within health facilities (Ronsman & Graham, 2006). Delays in recognition and treatment of life threatening complications and sub-standard care have been shown to contribute to maternal deaths. Prolonged obstructed labour continues to be one of the leading causes of preventable maternal deaths. Use of partograph has been shown to prevent obstructed labour and averts unnecessary caesarean section (W.H.O, 1994).

Methods

This was a cross sectional study design conducted at Kapkatet sub county hospital, Kericho County involving 177 systematically sampled partographs. A checklist was used to assess the completed or incomplete parameters at the end of 3rd stage. This was done for a period of 4 months. Both quantitative and qualitative methods were employed. This was assessed by use of internationally approved standard checklist in determining the proportion of the parameters documented or not documented against the parameters on the partograph (WHO, 2012). All midwives who consented to the study were also subjected to in-depth interview. Ethical clearance was sought from Moi University/MTRH institutional research and ethics committee permission from Kapkatet sub county Hospital research committee. Participation for the key informants (midwives) was on voluntary basis. Data collection tools were anonymous and were kept under key and lock. The statistical package for social sciences (SPSS V.20) was used for data entry and analysis. The analysis was descriptive in form of frequency, means and standard deviation as measures of central tendency and variability. To test the association between independent variables and dependent variable, chi-square test of independence was used at 95%confidence.

Findings

A total of 177 partographs were audited in the study. On admission data, date and time was done on 112(63.3%) partographs, mothers name was documented on 149(84.2%) while parity, gravity was evident on 105(59.3%) of the partographs.

Hundred and thirteen (63.8%) Partographs had Fetal heart rate shown, while 64 (36.2%) had liquor, 62(35%) had moulding and 62(34.5%) had caput. Regarding maternal condition, pulse and blood pressure was done in 83(46.9%) of the partographs, temperature 59(33.3%), respiration 66(37.3%), urinalysis 69(39%) and treatment 54(30.5%) among others as shown in figure 1.

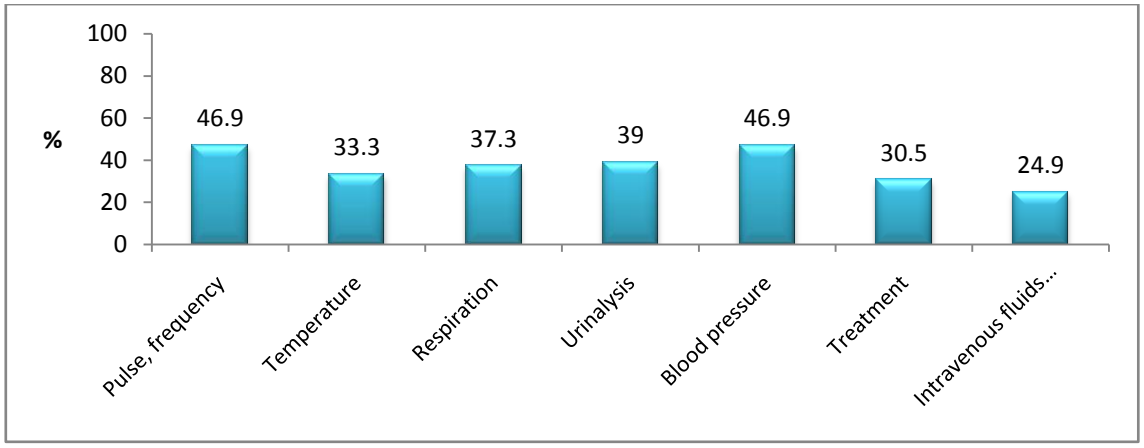

Fig 1: Maternal condition

Cervical dilation, was done in 133(75.1%), descent 96(54.2%) while uterine contractions in 88(49.7%) of the partographs among others as indicated in figure2.

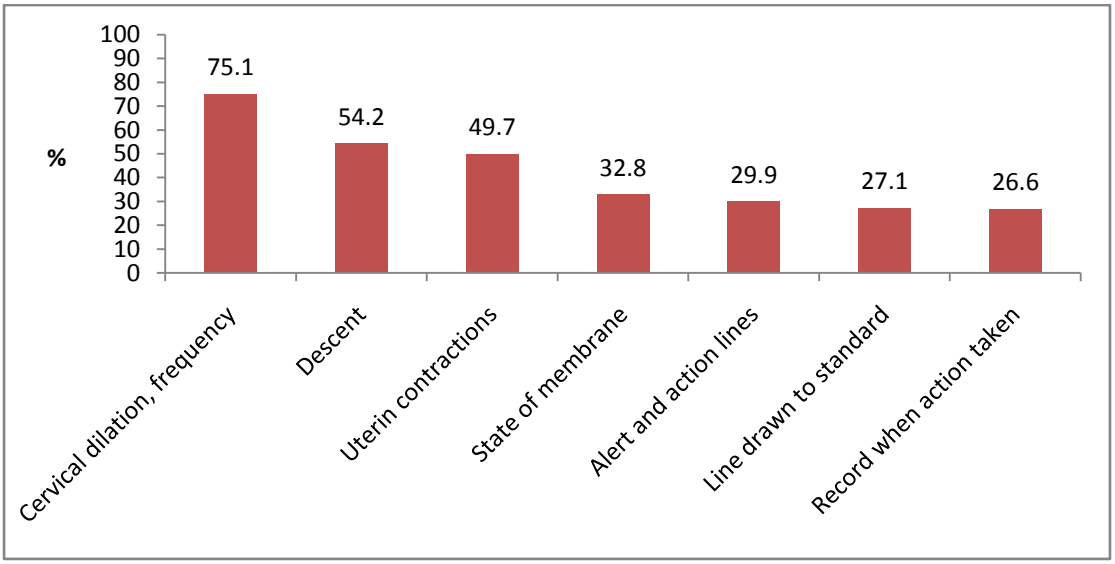

Fig 2: Progress of labour

During the third stage, time of delivery of the placenta, mode of delivery and blood loss were recorded in 97(54.8%) of the partographs, placenta examination shown in 94 (53.1%) while perineum status was done in 92 (52%) of the partographs observed as indicated in *figure.3*

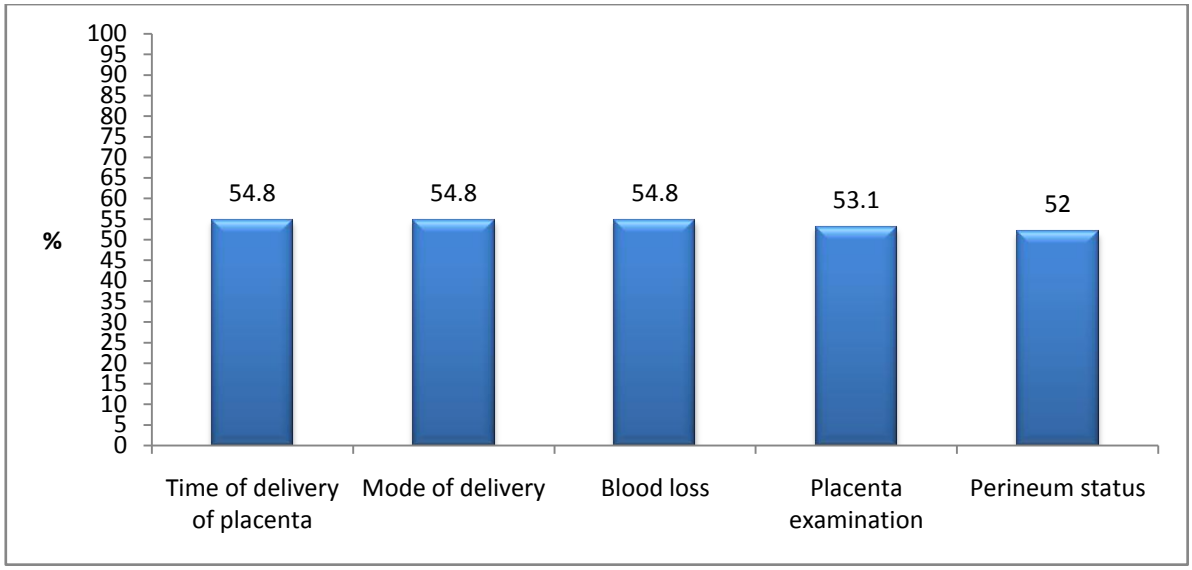

Fig 3: Third stage of labour

Among the 177partographs reviewed, only 45(25.4%) were complete. As indicated in table 1, there was a significant relationship between age and partograph completeness ($\chi2$=8.484, p=0.037). Lower proportion of those aged between 20-30 years (10.3%) completed their partographs compared to those above. Higher proportions of female (26.4%), widowed/separated/divorced (33.3%) and certificate level of education (31.4%) completed the partographs though the difference in proportions was not significant (p>0.05)

Table1: Factors related to partograph completeness

Factor	Completeness		Statistic	P-value
	Complete	Incomplete		
Age (yrs)				
20-30	4(10.3%)	35(81.7%)		
31-40	17(37%)	29(63%)	$\chi2$=8.484	0.037
41-50	11(22.4%)	38(77.6%)		
>50	12(28.6%)	30(71.4%)		
Gender				
Male	6(18.8%)	26(81.2%)	$\chi2$=0.815	0.367
Female	38(26.4%)	106(73.6%)		
Marital status				
Married	36(28.6%)	90(71.4%)	$\chi2$=5.385	0.070
Single	4(11.1%)	32(88.9%)		
Others	5(33.3%)	10(66.7%)		
Qualification				
Certificate	11(31.4%)	24(68.6%)	$\chi2$=0.993	0.609
Diploma	23(23%)	77(77%)		
Degree	10(24.4%)	31(75.6%)		
Experience (yrs)	18.7(sd 10.2)	15.9(sd 10.4)	t=1.566	0.119

Multiple binary regression indicated that age and experience (years) were significant demographic factors influencing completeness of partographs (p=0.041 and p=0.030) respectively. Those aged between 31-40 years were almost 9 times more likely to complete their partographs compared to those above 50 years (OR;95% CI: 8.503; 1.330-54.346).

Table 2: Demographic factors influencing partograph completeness

Factor	B	S.E.	Sig.	OR	95% C.I.for OR)	
					Lower	Upper
Age (yrs)			**.041**			
20-30	1.405	1.270	.269	4.077	.338	49.156
31-40	2.140	.946	.024	8.503	1.330	54.346
41-50	.253	.613	.680	1.288	.387	4.283
Experience(yrs)	.088	.041	**.030**	1.092	1.008	1.182
Education			.471			
Certificate	.369	.612	.546	1.447	.436	4.800
Diploma	-.246	.472	.602	.782	.310	1.971
Gender(Male)	-.120	.577	.835	.887	.286	2.749
Marital status			.699			
Married	-.044	.668	.947	.957	.258	3.546
Single	-.631	.933	.499	.532	.085	3.313
Constant	-3.378	1.525	.027	.034		

Similarly those aged 20-30 years were 4 times more likely to complete their partographs compared to those above 50 years (OR;95% CI: 4.077; 0.338-49.156). A unit increase in years of experience leads to an increase in chances of completing the partograph by9.2% (OR; 95% CI: 1.092; 1.008-1.182).

Discussion

The findings from the study revealed that the partograph as a labor monitoring tool is poorly utilized. There is significant proportion of undocumented parameters. The partographs were complete in 25% .This was found to be lower than studies done in Ethiopia (57%) and South Africa at (64%). However it was found to be higher in a study done in Mali where completeness was at 18.8%.

The research showed that fetal condition was monitored at 63.8% and this affected fetal condition. Several studies revealed that improper documentation of fetal heart rate was related to poor APGAR score. The above findings are slightly higher than a study done by Desalegn and Bogale in 2009 in Ethiopia revealed that 30.5% of partographs were documented. The study further revealed that Liqor was completed in 36% while moulding was at 35%. This finding is comparable with a study done in Malawi by (Khonje, 2012) where liquor and moulding was inadequately done at 39% and 31% respectively. This could indicate that the midwife lacks knowledge and skills or are negligent in assessing moulding and fetal head thus necessitating further training to fill the gap.

It was found out that cervical dilatation was documented in 75% which is nearly similar to findings of a study done in Addis Ababa Ethiopia and Uganda where 68% and 71% of cervical dilatation respectively were properly documented.

However this finding is not comparable to those done in Dar-es-salaam where only 20% of cervical dilatation was documented as per protocol. The current study revealed that the blood pressure was documented in 46.9 %. The findings are in agreement with a study done in Addis Ababa. This is not in agreement with a study in Dar-es-

Salaam where documentation of this parameter was low at 36%.This difference could be due to negligence by the midwives and shortage of vital signs instruments such as Blood pressure machines.. Reasons for not using the partograph during labor were lack of trainings and updates, unavailability of the partographs at the department, increased workload, poor attitude, and shortage of staff. These findings are in consistent with done by (Nagash, 2010) in Ethiopia. (Opiah & lavender, 2001) following a study in selected hospital in Bayelsa yielded similar findings.

The study further found that attitude influenced partograph utilization. This was captured by use of an in-depth interview guide. Partograph utilization was significantly higher in those midwives who had favorable attitude compared to those with unfavorable attitude. The study revealed that only 41.7% of the respondents received in service training of whom more than half of them i.e17% utilized the paragraph in labor monitoring always. This finding is contrary to a study in Dar-es- Salaam where all midwives had been previously trained.

Though all the midwives mentioned that they had received partograph information in their basic trainings in college, 80% demanded in service training to be able to effectively utilize the tool. This implies that in-service training alone is not enough to enhance maximum uptake.

Majority (83.3%) of the respondents admitted that the partograph is an important tool in identification of obstructed labor and timely referral. This is in agreement with WHO policy which has demonstrated in the safe motherhood initiative programme that it is effective in reducing prolonged labor cases and consequently lowering the rate of labor augmentation, caesarean cases and minimizing stillbirths (WHO,2009).

Recommendations

The findings were fairly evident that partograph utilization in labor monitoring was found to be low. Being a midwife by profession, on job training, knowledge and attitude of obstetric care providers were factors affecting partograph utilization. The attitude of the midwives towards partograph utilization tends to lead more on the negative hence low use of the tool. All midwives involved in management of mothers and fetus should be given adequate training through workshops and seminars on partograph use during labor so as to function effectively and efficiently. Monitoring and supervision of midwives should be enhanced to ensure appropriate use of partographs. This should be given a priority by maternity unit in charges. Employers must ensure that maternity unit settings have adequate number of midwives who are well prepared in partograph use to monitor labor progress.

References

Hogan, M., &Naghavi, M. (2008). A systematic analysis of progress towards millennium

Johnson,A. (2013). Theory building in applied discipline, San Francisco,LA. Berreit-Koehler publishers 2013.

Khonje,M., (2012). A cross sectional study on use and documentation of partograph and factors that prevent optimal utilization of the partograph: Perspectives of health workers at Bwailaand Ethel Mutharika Maternity Units in Lilongwe–Malawi, University of Oslo, Norway, 1-155.

Kitila, S. (2014).Utilization of partograph during labor and birth outcomes at Jimma University. Pregnancy and child health.

Kongnyuy, E. (2008). Establishing standards for obstructed labour in low income countries. Rural remote health 8(3)1022-1030

Lavender, T., & Wilkshaw, S. (2008). Effect of different partograph action lines on birth outcomes.A randomized control trials. *Journal of obstetrics and gynecology* 108:295-302

Lavender, T., & Malcolmson, l. (1999). Is the partograph a help or a hindrance?. An explorative study of midwives views. Practicing midwife 2:23-27

Lavender, T., & Wilkishaw, S. A. (1999). Managing labour using partograph with different action lines. A prospective study of women's views. *British Journal of obstetrics and gynecology* 1999; 26:89-96

Lavender,T. (2012).Effect of partogram use of outcomes in spontaneous labor at term. Cochrain Database Systematic Reviews 2013 4(7)

Levin,K.(2011).Use of the partograph. Effectiveness, training, modifications, and barriers. New york; Engenderhealth/Fistula care

Maimbolwa, M.C., Ransjo, A.B., Ngandu, N., Sikazwe, N., Diwan, V.K. (1997). Routine care of women experiencing normal deliveries in Zambian maternity wards. A pilot study: midwifery 13(3):125-131

Mercer, S.W.,& Sevar, K. (2006). Using clinical audit to improve quality 0f obstetric care at Tibetan Delek Hospital in North India. A longitudinal study. Reproductive health 3 (40)1010-1050

Polit,D.F, & Beck,C. (2001). Essentials of Nursing Research Methods appraisals and utilization. Lippincott, Philadelphia.

Qureshi, Z., & Kigondu, C. (2010). Rapid assessment of partograph utilization in selected maternity units in Kenya. *East African medical journal* 87(6)235-241

Ronsman, C. (2006). Maternal mortality: who, when, where, and why. Lancet 2006;368:1189-1198

Sachs, J., & Graham, W. (2005). The millennium project: A plan for meeting the millennium development: Lancet 2005; 365:347-353

WWorld Health Organization partograph in management of labour (WHO, 1994) World health organization maternal health and safe motherhood programme. Lancet 1994:343:1399-1404

World health organization report 2005. Making every mother and child count. W.H.O Geneva