

# Clinical Audit on Effective Usage of Partogram in Obstetric Unit B of DGH-Kalutara from 01st March 2016 to 31st May 2016

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## Abstract

World Health Organization (WHO) recommends partogram for universal use during labour as a necessary tool. Continuous monitoring during labour provides a safe care. Further it prevents adverse outcomes relating to child birth. The tool helps to identify early deviations and intervene timely. Annually, a huge sum of money is spent on maternal health by the government of Sri Lanka to deliver a free health care to the public. The maternal mortality is reported to be low despite that Sri Lanka is a developing country. Hence, it is the duty and responsibility to keep the statistics further low and maintain excellent quality of care with the available resources.

Since partogram can detect obstructive labour early, it helps to reduce maternal deaths by preventing uterine rupture, postpartum haemorrhage and puerperal infections. Perinatal mortality is reduced when traumatic deliveries are less. It appreciates the use of the tool as it is simple, inexpensive and freely available. The goal of this audit is to assess the effective use of partogram in the local setting.

A descriptive study was conducted in obstetric unit B of District General Hospital (DGH)-Kalutara. A total of 571 of deliveries from March to May in 2016 were selected for the audit. Effective use of partogram was assessed by executing partograms of relevant BHTs. Data collection and analysis was done by the auditor.

Client information is included in majority of partograms. Position, caput, moulding, cervical dilatation, contraction free interval, duration of contraction and abdominal descent were not marked in the majority and the technical errors were noted during marking.

Practical issues in monitoring and documenting of contraction free interval and duration of contraction should be addressed. Maternal monitoring and second stage foetal monitoring should be encouraged. A proper training programme of National Partogram should be arranged.

## Keywords

National partogram of Sri Lanka, labour management, clinical audit

## I. INTRODUCTION

A partogram is a composite graphical record of events of labour (maternal and fetal) entered against time on a single

sheet of paper. Relevant parameters might include statistics such as cervical dilation, fetal heart rate, duration of labour and vital signs [1-4].

National Partogram of Sri Lanka was newly introduced by Sri Lanka College of Obstetricians and Gynecologists which was proposed in 2013 [2].

## II. JUSTIFICATION

Annually, a huge sum of money is spent on maternal health by the government of Sri Lanka as its free health system and has achieved less number of maternal mortality, which is approximately as that in a developed country. So it is our sole responsibility to stick to our health goals and overcome obstacles on our way.

As effective use of partogram can early detect obstructive labour, it reduces maternal mortality by preventing ruptured uterus, postpartum haemorrhage and puerperal infections. And traumatic delivery can be avoided by reducing perinatal mortality.

Early detection of adverse outcomes by this simple, inexpensive tool should be used effectively.

This study aims to explore the effective use of partogram in obstetric unit B.

## III. METHOD

A descriptive retrospective study was conducted in obstetric unit B of DGH-Kalutara. A total of 571 deliveries from March to May in 2016 were selected for the audit. No sampling was done. Effective use of partogram was assessed by executing partograms of relevant BHT (Bed Head Ticket)s. National partogram of Sri Lanka was used as the study instrument.

Emergency caesarean sections, which were directly sent to the operation theatre from obstetric ward, and elective caesarean sections were excluded because partogram maintaining was not relevant.

## IV. LIMITATIONS

Following limitations were identified during this audit:

Only 82.04% (n=345) of relevant BHTs were found from medical records unit.

Executer bias cannot be excluded since relevant BHTs and partograms were executed by the auditor himself.

Some technical errors (ex; incorrect symbols) in maintaining partogram were not considered since almost all the partograms were found to have same technical errors.

## V. STUDY FINDINGS

### A. Statistics of the Period of Interest

Table A1: Statistics of the period of interest in Obstetric unit B DGH-Kalutara.

	March 2016	April 2016	May 2016	Total
NVD	112	105	125	342
LR-EM/LSCS	13	30	29	72
Vaccum Deliveries	2	2	1	5
Forceps Deliveries	1	1	1	3
Breech Deliveries	1	0	0	1
Twin Deliveries (Vaginal)	1	1	0	2
IUD(Vaginal De- livery)	1	1	0	2
Total	129	140	154	423
BHT found	120	108	117	345
	93.02	77.14	75.97	82.04
% of BHT found	%	%	%	%
Total No of Births of Unit B	185	179	207	571

According to ward statics, 423 of relevant deliveries were occurred during the period of interest and only n=345 (82.04%) BHTs were found, due to logistic problems, and included for the audit.

### B. Details of Partogram Attached in the BHTs

Table B1- Details of Partogram attached in the BHTs of relevant deliveries

	Number	%
Partogram Not Found	32	9.28%
Partogram Found	313	90.72%

Majority of relevant BHTs were attached with a partogram (90.72%, n=313) and n=32, 9.28% of relevant BHTs were found to not have partogram.

Partogram without BHTs were further described as follows.

Table B2 –Description of partogram without BHTs

Partogram Not Found	Number
2 <sup>nd</sup> Stage admission to LR	4
IUD	2
EM/LSCS	14
Other NVDs	12

### C. Information of the Client in the Partogram

Table C1- Information of the Client in the Partogram

Information of the client	Included	Not Included
Name of the client	97.49%	2.51%
Age of the client	96.87%	3.13%
Gravida of the client	95.92%	4.08%
Parity of the client	94.36%	5.64%
Blood group of the client	96.55%	3.45%
Date and time of onset of Partogram	89.34%	10.66%
Special problems of client/pregnancy	25.08%	74.92%
Special instructions regarding delivery	1.88%	98.12%

### D. Monitoring of Foetal Wellbeing during the Labour in the Partogram

Table D1-Monitoring of Foetal Wellbeing during the Labour in the Partogram

Monitoring of foetal well-being during labour	Documented	Not Documented
Fetal Heart Record in 1 <sup>st</sup>		
Stage	80.88%	19.12%
CTG (Cardiotocography)		
comment	4.08%	95.92%
Liquor colour	34.17%	65.83%
Position of the foetus	2.82%	97.18%
Caput in the partogram:	8.78%	91.22%
Moulding of the foetal skull	7.84%	92.16%

### E. Progress of the Labour in the Partogram

Table E1- Progress of the Labour in the Partogram

Progress of the Labour	Recorded	Not Recorded
Contraction free interval	6.58%	93.42%
Duration of contractions	6.27%	93.73%
Oxytocin Dose/Drop Rate	29.47%	70.53%
Abdominally Descent	0.31%	99.69%
Cervical dilatation	11.29%	88.71%
Alert line	67.08%	32.08%
Action line	65.83%	34.17%
Descent Vaginally	23.20%	76.80%

### F. Monitoring of Maternal Wellbeing during the Labour in the Partogram

Table F1- Monitoring of Maternal Wellbeing during the Labour in the Partogram

Monitoring of Maternal Wellbeing during labour	Documented	Not Documented
Maternal pulse	50.16%	49.84%
Maternal blood pressure	43.26%	56.74%
Maternal body temperature	35.11%	64.89%

### G. Monitoring of the 2<sup>nd</sup> stage of Labour

Table G1- Monitoring of the 2<sup>nd</sup> stage of Labour

Monitoring of the 2 <sup>nd</sup> stage of Labour	Documented	Not Documented
Fetal Heart Record in 2 <sup>nd</sup>		
Stage	0.63%	99.37%
Time of Fully Dilated	0.94%	99.06%
Commenced Pushing	0%	100%

### H. Action Taken

Action taken was not documented in any partogram executed (0%).

### I. Closing of the Partogram

Partogram was closed at the end of the delivery/sending for EM/LSCS 3.14%.

### J. Date and Time of the Delivery

Date and time of delivery documented in 70.22% of partograms.

#### *K. Post Partum Modified Early Warning System*

Post Partum Modified Early Warning System was maintained with 81.19% of the partogram.

## **VI. DISCUSSION**

This audit provides an overview of effective use of partogram in obstetrics unit B, General Hospital, Kalutara.

Partograms of relevant BHTs from 1<sup>st</sup> March 2016 to 31<sup>st</sup> May 2016 were assessed.

Total number of birth in study period was 571 and 423 deliveries were selected after applying of exclusion criteria. But, only 345 (82.04% of relevant BHTs) were found due to logistic issues.

#### *A. Details of Partogram attached/Not attached in the BHTs*

Majority of relevant BHTs were attached with a partogram (90.72%, N=313) and n=32, 9.28% of relevant BHTs were found to have no partogram. (Table B1)

N=313 is used for statistical purposes throughout the execution.

Relevant BHTs without a partogram (9.28%, n=32) were further described as 2<sup>nd</sup> stage admission to LR (n=4), IUDs (n=2), EM/LSCS (n=14) and other NVDs (n=12). (Table B2)

#### *B. Information of the Client in the Partogram*

Information of the client were completed in majority of partograms as name of the client 97.49%, n=311, age 96.87%, n=309, gravida 95.92%, n=306, parity 94.36%, n=301, blood group 96.55%, n=308. (Table C1)

Date and time was mentioned in 89.34%, n=285 partograms.

In majority of the partograms special problems (25.08%, n=80) and special instructions (1.88%, n=6) were not given.

#### *C. Monitoring of Foetal Wellbeing during the Labour in the Partogram*

Foetal heart rate in 1<sup>st</sup> stage of labour was recorded in the majority (80.88%) while 19.12% of partograms were not recorded. (Table D1)

Comment of CTG was included only in 4.08%, n=13 partograms.

Liquor colour was mentioned in 34.17%, n=109 partograms while position (2.82%, n=9), caput (8.78%, n=28) and moulding (7.84%, n=25) mentioned in minimal number of partograms.

#### *D. Progress of the Labour in the Partogram*

Contraction free interval (6.58%, n=21) and duration of contraction (6.27%, n=20) recorded in very few partograms technical errors of recoding were noted in each and every partogram which were recorded. (Table E1)

Oxytocin drop rate was mentioned only in 29.47%, n=94 partograms.

Abdominal descent was marked only in one partogram (0.31%, n=1) and it was technically incorrect.

Cervical dilatation was marked only in 11.29%, n=36 partograms.

The majority of the partograms alert line (67.08%, n=214) and action line (65.83%, n=210) were drawn.

Descent vaginally was marked only in 23.2%, n=74 partograms but correct technique was not followed in marking.

#### *E. Monitoring of Maternal Wellbeing during the Labor in the Partogram*

Maternal pulse was documented in only 50.16%, n=160 partograms and maternal blood pressure (43.26%, n=138), maternal body temperature (35.11%, n=112) were recorded only in minority. (Table F1)

#### *F. Monitoring of the 2<sup>nd</sup> stage of Labour*

Fetal heart record in 2<sup>nd</sup> stage was noted only in two partograms (n=2, 0.63%). (Table G1)

The time of fully dilated was noted only in three partograms (n=3, 0.94%).

Commenced pushing was not documented in any of partogram (n=0, 0%)

#### *G. Action Taken*

Action taken was not documented in any partogram executed (0%, n=0).

### *H. Closing of the Partogram*

Partogram was closed only in 3.14%, n=11.

### *I. Date and Time of the Delivery*

In the majority (70.22%, n=224) date and time of delivery documented in the Post Partum Modified Early Warning System.

### *J. Post Partum Modified Early Warning System*

In the majority (81.19%, n=259) Post Partum Modified Early Warning System was maintained but technique was not assessed.

## **VII. CONCLUSION**

This audit assessed the effective use of partogram. Client information was included in majority of partogram but position, caput, moulding and CTG comments, were not included in majority. Contraction free interval, duration of contraction and abdominally descent were not marked in the majority and the technical errors were noted during marking.

Though alert line and action line were drawn frequently cervical dilatation was not marked in the majority. Maternal monitoring during labour was not documented in the majority.

Action taken was not documented in the partogram. Fetal monitoring of the 2<sup>nd</sup> stage was not documented in almost all the time. Closing of the partogram was done hardly.

Date and time of the delivery and Post Partum Modified Early Warning System was maintained in majority.

## **VIII. RECOMMENDATIONS**

Training programme on maintaining of National Partogram should be arranged and encouraged and value of partogram in monitoring during the labour should be discussed.

Practical issues in monitoring and documenting of contraction free interval, duration of contraction and in the 2<sup>nd</sup> stage of labour should be addressed. Importance of maternal monitoring during labour should be highlighted. Reaudit should be done after a proper training programme in the days to come and further studies on maintaining partogram should be encouraged.

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