DOCUMENTATION OF THE MODIFIED WHO PARTOGRAPH DURING LABOUR IN A SOUTH INDIAN TERTIARY CARE HOSPITALVidyashri Kamath C¹, Nagarathna G², Sharanya³**HOW TO CITE THIS ARTICLE:**

Vidyashri Kamath C, Nagarathna G, Sharanya. "Documentation of the Modified Who Partograph during Labour in A South Indian Tertiary Care Hospital". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 82, October 12; Page: 14415-14421, DOI: 10.14260/jemds/2015/2050

ABSTRACT: BACKGROUND: The World Health Organization (WHO) recommends use of the partograph during labour and delivery, with the aim of improving health care and reduce maternal and foetal morbidity and death. The partograph consists of a graphic representation of labour and of fetal and maternal condition during labour. Therefore, the objective of this study was to find out the use of the partograph by the obstetric care givers in the tertiary hospital of south India. **METHODS:** A retrospective study reviewing the completion of the modified WHO partograph during labour in a tertiary care teaching hospital in south India was undertaken. A total of 502 modified WHO partographs used to monitor mothers in labour were reviewed. A structured checklist was used to gather the required data. The collected data were analyzed using SPSS version 16.0. Frequency distributions, cross-tabulations and a graph were used to describe the results of the study. **RESULTS:** Out of the 502 partographs reviewed, foetal heart rate was recorded according to the recommended standard in 261(51.9%) of the partographs, while 245 (48.8%) of cervical dilatation and 280 (66.6%) of uterine contractions were recorded to the recommended standard. The study documented descent of the presenting part in 235(46.8%), moulding in 108(21.5%) of the partographs reviewed. Documentation of state of the liquor was 228(45.4%), while the maternal blood pressure was recorded to standard only in 175(34.8%) of the partographs reviewed. **CONCLUSION:** This study showed a fair completion of the modified WHO partographs during labour in the hospital studied. The findings may reflect management of labour or simply inappropriate completion of the partograph. Based on the findings of this study, and earlier recommendations, pre-service and periodic on-job training of health workers on the completion of the partograph, regular supportive supervision and provision of guidelines is recommended.

KEYWORDS: Modified WHO partograph, documentation, labour.

INTRODUCTION: Labour complications are an important cause of mortality, morbidity and long-term disabilities for both mothers and babies.^[1] The partograph is a graphical presentation of the progress of labour and of fetal and maternal condition during labour. It is the best tool to detect whether labour is progressing normally or abnormally, and to warn the obstetric care givers as soon as possible if there are signs of fetal distress or if the mother's vital signs deviate from the normal range. Research studies have shown that maternal and fetal complications due to prolonged labour were less common when the progress of labour was monitored by the birth attendant using a partograph. ^[2,3]

The partograph provides health care professionals with an overview of the labour to allow early identification and diagnosis of pathological labour. The World Health Organization (WHO) recommends use of the partograph during labour and delivery, with the objectives to improve health care and reduce maternal and foetal morbidity and death.^[2]

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WHO conducted a prospective non-randomized study in South-East Asia and concluded that the partograph was a necessary tool in the management of labour. Findings indicated that introduction and agreed protocol reduced prolonged labour (From 6.4% to 3.4%), the proportion of labour requiring augmentation (From 20.7% to 9.1%), emergency caesarean section (From 9.9% to 8.3%) and still births (From 0.5% to 0.3%) [4]. Therefore, proper use of a partograph in an environment where referral and timely intervention are possible would greatly contribute to reduction of maternal mortality and morbidity in the region.[2,3] Therefore, the objective of this study was to find out the use of the partograph by the obstetric care givers in the tertiary hospital of south india.

METHODS: Study Setting: The study was conducted in a tertiary care teaching hospital of the coastal region of south India from september 2014 to October 2014. A descriptive study based on document review was used to examine the completion of a modified WHO partograph during labour [Figure 1]. The source comprised all the modified WHO partographs that had been used to monitor labour in the medical college hospital between October 2014 to November 2014.

Inclusion and Exclusion Criteria: This study included all the modified WHO partographs which had complete or partially complete information of laboring mothers. Exclusion criteria was severe oligohydramnious, intrauterine foetal death (IUFD), previous caesarean section, breech presentation, Human Immunodeficiency Virus (HIV), preeclampsia in latent phase of labour and elective caesarean section as partograph completion is not recommended for mothers with the above conditions.

The parameters of labour in the partograph were assessed to determine whether they had been monitored according to standard protocol.[5] Standard protocols were defined based on the time interval as follows; (1). Cervical dilatation, moulding, descent of the presenting part and blood pressure monitored every four hours; (2). Foetal heart rate, maternal pulse and uterine contractions monitored every 30 minutes; (3). Condition of the baby after birth should always be recorded on the card. Records not meeting any one of the protocol standards or with parts misplaced/missing or inadequate for each parameter of the partograph were judged as substandard, or not recorded if no information was documented on the parameters of the partograph or completely absent from the file and standard if all the criteria are met for each parameter on the partograph. The condition of the baby should also have been recorded in appropriate section of the partograph to include the Apgar score (Apgar score of ≥ 7 was considered satisfactory in this study).[6] All partographs were scrutinized for documentation of cervical dilatation, uterine contraction, foetal heart rate, action line crossed/not crossed, maternal blood pressure, moulding, descent of the presenting part, state of membranes and condition of the baby after birth.

The data were then analysed using SPSS version 16. Frequency distributions, cross-tabulations and a graph were used to describe the variables of the study.

RESULTS: Five hundred and two modified WHO partographs that had been used for labour management in the hospital during the period of this study were reviewed.

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Labour Parameters	Frequency	Percentage
Fetal Heart Rate		
Not Recorded	106	21.1
Substandard	135	26.8
Monitored to standard	261	51.9
Moulding		
Not Recorded	222	44.2
Substandard	172	34.2
Monitored to standard	108	21.5
Status of membranes recorded		
Yes	228	45.4
No	274	54.8

Table 1: Recording of Parameters of Fetal Wellbeing

Based upon review of 502 modified WHO partographs, foetal heart rate was not recorded in 106(21.1%) and the records were judged to be sub-standard in 135(26.89%) while recorded up to the recommended standard in 261(51.9%) of the partographs reviewed. In 222(44.2%) of the 502 modified WHO partographs reviewed, moulding of foetal head was not recorded at all, while in 172(34.2%) and in 108(21.5%), it was plotted below the standard and up to the recommended standard respectively. The status of membranes was recorded only in 228 (45.4%) of the partographs reviewed while not recorded at all in 274(54.8%) (See Table 1).

Measurement of cervical dilatation was recorded completely in 245(48.8) of the partographs while 148(29.4%)] of these records were substandard while cervical dilatation was not recorded in 109(21.7%) of the partographs. Uterine contraction was not recorded in 104(20.7.0%) while recorded to the standard in 280(66.6%) and sub-optimally recorded in 118(23.5%) of the partographs. Descent of the presenting part was not recorded in 119(23.7%) of the partographs reviewed. The action line of the cervical graph was crossed only in 8(13.3%) of the recorded partographs. 175 (34.8%) deliveries during the period of study had their blood pressure monitored while 50(9.9%) were substandard.

Condition of the baby after birth was assessed using the Apgar score system. Apgar score was not recorded in 38(7.5%) of the studied partographs. In 92.5% of the partographs, where the condition of the new born had been recorded, live babies were considered to have been in good condition (Apgar score 7-10) in 93.4% (Table 2). From labour parameters monitored on the reviewed partographs, cervical dilation and descent of fetal head was better monitored to standard (46% and 48% respectively). The least standard monitored parameter was moulding and BP measurement which was only recorded in 21.5% and 34.8% of the partographs respectively.

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PARAMETERS OF LABOUR	Frequency	Percentage
Descent of fetal head		
Not Recorded	119	23.7
Substandard	148	29.4
Monitored to standard	235	46.8
Cervical Dialatation		
Not Recorded	109	21.7
Substandard	148	29.4
Monitored to standard	245	48.8
Uterine contractions		
Not recorded	104	20.7
Substandard	118	23.5
Monitored to standard	280	66.6
Action line crossed		
Yes	8	13.3
No	52	86.6
Blood Pressure		
Not recorded	277	55.1
Substandard	50	9.9
Monitored to standard	175	34.8
Condition of the baby at birth		
Not recorded	38	7.5
Recorded	464	92.5
Good [apgar >7]	469	93.4
Not good [apgar <7]	28	5.5
Stillbirth	5	1

Table 2: Recording of Parameters of Maternal and Fetal Conditions

DISCUSSION: The present study revealed a fair proportion of recorded parameters of labour on the modified WHO partograph and standard monitoring of the progress of labour. Though lack and substandard records for the moulding in 79% and non-measurement of maternal vitals in 65% of the studied partographs indicates poor documentation, and perhaps poor monitoring and supervision of labour. In order to achieve good foetal outcome, it is extremely important to monitor foetal condition during labour.^[7] It was hoped that completion of this instrument would help towards achievement of that goal.

Our study found that among 502 of the modified WHO partographs reviewed, foetal heart rate was not recorded in 106(21.1%) and was sub-standard in 135(26.8%) while monitored up to the recommended standard in 261(51.9%) of the partographs. This finding reported a higher figure than a study done in Ethiopia.^[8] where the partograph documentation that fulfilled the standard monitoring of foetal heart rate was only 30%. This difference could be due to differences in the health system obligatory policy on the use of a partograph during labour.

In this study only 21% and 34% of the moulding and maternal BP respectively were recorded according to the standard for monitoring of these two labour parameters. This is indicative of poor

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monitoring of parameters on the partograph against standards. This necessitates the need to stress on the obstetric care givers on completion of the partograph and perhaps a mandatory health facility policy on the completion of the partograph. This is similar to the study reported from Engida Yisma et al^[8] where cervical dilation was the most frequently recorded parameter of the progress of labour but differs from that study with respect to uterine contractions which was monitored in almost two thirds (61%) of the partographs reviewed. This may suggest that obstetric care givers prioritized documentation of cervical dilation, descent of fetal head and uterine contractions over the other parameters.

This study has further revealed that the obstetric care givers did not feel it necessary to complete the partograph as all of the labour parameters were recorded to standard in around 50-60% of the modified WHO partographs reviewed. Lack of documentation and suboptimal documentation of some parameters of the progress of labour could hinder early detection of complications. Early detection and timely intervention on obstetric complications are the most important activities to prevent maternal and perinatal mortality and morbidity.^[9] A pre and post educational assessment along with the documentation of outcomes may provide further impetus for appropriate completion of the partograph.

The limitations of this study could include the following.

Our study analysed only the completion of the parameters of the partograph during labour. As completion may not necessarily mean use, the findings of the present study may not show the extent of use of the partograph for monitoring labour progress. The partographs might have been used only to record events in labour rather than to guide management of labour.

In conclusion, the present study showed a fair completion of the modified WHO partographs during labour in the tertiary care hospital studied. The findings may reflect management of labour or simply inappropriate completion of the partograph. Based on the findings of this study, and earlier recommendations,^[8] pre-service and periodic on-job training of health workers on the completion of the partograph, regular supportive supervision and provision of guidelines is recommended.

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PARTOGRAPH											
Name		Gravida		Para		Hospital no.					
Date of admission		Time of admission		Ruptured membranes		hours					
Fetal Heart Rate		<div style="display: flex; justify-content: space-between;"> 200 190 180 170 160 150 140 130 120 110 100 90 80 </div> <div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									
Cervix (cm) (Plot "x")		<div style="display: flex; justify-content: space-between;"> 10 9 8 7 6 5 4 3 2 1 0 </div> <div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%);"> <p>Went</p> <p>Back</p> </div> </div>									
Descent of Head (Plot "x")		<div style="display: flex; justify-content: space-between;"> 10 9 8 7 6 5 4 3 2 1 0 </div> <div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									
Contraction per 10 mins.		<div style="display: flex; justify-content: space-between;"> 5 4 3 2 1 </div> <div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									
Oxytocin U/L Drop per min.		<div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									
Drugs given and IV fluids		<div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									
Pulse and BP		<div style="display: flex; justify-content: space-between;"> 180 170 160 150 140 130 120 110 100 90 80 70 60 </div> <div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									
Temp. °C		<div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									
Urine protein		<div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									
Urine volume		<div style="border: 1px solid black; width: 100%; height: 100px; position: relative;"> <div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black;"></div> </div>									

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