

A Study on Monitoring Active Phase of Labour by Modified WHO Partograph in a Tertiary Care Centre in Jharkhand

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ABSTRACT

Introduction: The modified WHO partograph is an inexpensive but valuable tool that provides a continuous pictorial overview of progress of labor. It helps to detect any deviance from normal progress of labor. It guides the obstetrician to decide about the need for early diagnosis of complications like prolonged labour and timely intervention. Study objectives were to study the course of normal and abnormal labour, to evaluate the fetomaternal outcome and to study abnormalities of active phase of labour.

Material and Methods: A prospective observational study was carried out in RIMS labour room over a period of 6 months from 1st October 2017 to 31st March 2018. 100 Cases admitted in labour room were randomly selected and monitored using Modified WHO Partograph. Pregnant women with uncomplicated full term pregnancies (37-40 weeks) with vertex presentation in labour were included and women with medical complications like anemia, pregnancy induced hypertension, gestational diabetes, Abnormal lie or presentation, diagnosed cases of CPD were excluded from this study. Various parameters like progress of labor, need for augmentation, mode of delivery, perinatal outcome etc. were studied.

Results: Out of 100 women, 83 delivered vaginally without any operative intervention, out of which 20 cases (24%) required augmentation with oxytocin, due to inadequate uterine contractions. Instrumental delivery rate was 02 percent. The caesarean section rate was 15 percent. Commonest indication for caesarean section was fetal distress. (9 out of 15 caesarean sections accounting for 60%).

Conclusion: From the observations of the present study, we conclude that routine use of partogram during labour management help in early detection of deviation from normal progress of labour, guiding timely intervention.

Keywords: Partograph, Active Phase of Labour, Caesarean Section Rate

A practical method of managing labour called 'partograph' has been evolved over the years. Progress of labour has now been strictly defined by graphical means based upon progressive cervical dilatation.

Components of a partograph

- Patient identification details
- Time –recorded at hourly interval.
- Fetal heart rate –recorded every 30 minutes.
- State of membranes (i for intact membranes) and colour of liquor (c for clear and m for meconium stained liquor.)
- Cervical dilatation
- Uterine contractions
- Drugs and fluids given.
- Blood pressure (every 2 hrly) and pulse rate (every half an hour).
- Urinalysis.
- Temperature record. (2 hourly)
- The partograph shows an alert and an action line.
- Alert line is drawn starting from cervical dilatation of 4cm to 10 cm at the rate of 1 cm per hour. Action line is drawn parallel and 4 hours to the right of the alert line.⁵
- Plotting is started at 4cm dilatation. This requires pervaginal examination every 4 hourly.
- If the patient's plotting crosses the alert line search for the cause of delay in progress (uterine inertia, CPD, malposition or malpresentation) should be done.
- If the patient's plotting crosses the action line active intervention must be done (caesarean section or instrumental delivery).

The present study was carried out with the objectives to study the course of normal and abnormal labour and to do timely intervention if necessary, to study various abnormalities of active phase of labour and to evaluate the Fetomaternal outcome in normal and abnormal labour.

MATERIAL AND METHODS

This prospective observational study was carried out in

INTRODUCTION

Early detection of abnormal progress and prevention of prolonged labour can significantly reduce maternal morbidity and mortality across the globe.

Partograph is an inexpensive essential tool in monitoring the progress of labour. It is a composite graphical record of data (maternal and fetal) during labour entered against time on a single sheet of paper.¹

The partogram was introduced after the classical studies of Emmanuel Friedman (1954) in the USA² and the pragmatic innovations of Hugh Philpott in Africa.^{3,4} The important component is the plotting of the progress in labour to assist decision making.

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RIMS, Ranchi, labour room over a period of 6 months from 1 st October 2017 to 31 st March 2018. 100 pregnant women admitted in labour room were selected and labourmonitored using “Modified WHO Partograph.” Selected women fulfilling the selection criteria were carefully monitored after they entered active phase of labour.

All patients were carefully selected after taking informed consent and following ethical guidelines.

A. Inclusion Criteria

Pregnant women with uncomplicated full term pregnancies (37-40 weeks) with vertex presentation in labour.

B. Exclusion Criteria

Women with medical complications like anemia, pregnancy induced hypertension, gestational diabetes, Abnormal lie or presentation, diagnosed cases of CPD.

Careful maternal monitoring was done using ‘Modified WHO Partograph’ and fetal heart monitoring using handheld Doppler. (and CTG in high risk cases). The need for augmentation of labour using oxytocin infusion was assessed by monitoring uterine contraction every half hourly. The augmentation of labour was done with oxytocin infusion, whenever hypotonic uterine inertia was diagnosed as the cause for the delay in the progress of labour. As a policy of active management of labour, artificial rupture of membranes was done at or beyond 4 cm dilatation of cervix with taken up cervix after fulfilling the criteria for Artificial rupture of membranes (Bishop’s score > 6).

STATISTICAL ANALYSIS

The data was analyzed statistically using the Microsoft Excel software. Descriptive statistics like mean and percentage were used to interpret data (with the help of Microsoft office 2007).

RESULTS

Out of the 100 women studied, 44 women presented in active stage of labour and 56 women presented in early labour. Out of the 100 women, 33 women were referred from peripheral hospitals, 10 in early labour and 23 patients in active labour, but partograph was not attached in any referral paper., showing the inadequate usage of partograph in peripheral centres of Jharkhand.

Maternal Outcome

It was observed that 83 percent of women delivered vaginally without any operative intervention out of which 20 cases (24%) required augmentation with oxytocin. Instrumental delivery rate was 02 percent (forceps application). The mean duration of active phase of labour in women who delivered vaginally was 2.5 hours for multigravidae and 4 hours for primigravidae. The caesarean section rate was 15 percent. Commonest indication for caesarean section was Fetal Distress. 9 out of 15 caesarean sections accounting for 60%, 3 out of 15 (20%) was for non progress of labour and another 20% was for deep transverse arrest. Second stage caesarean was done in 4 cases (26% of caesarean section rate), with babies delivered by Patwardhan’s method in 2 cases (table-3)

Mean age (in yrs)	24	
Socioeconomic status	Low	Middle
	55%	45%
Obstetrical H/O	Primi	Multi
	60%	40%

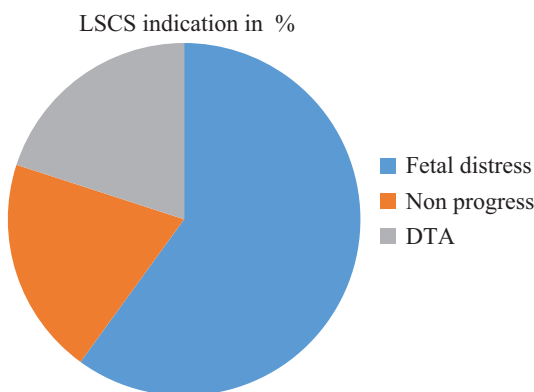
Table-1: Maternal characteristics

Mode of delivery	No. of mothers (N)
Spontaneous vaginal delivery	83
Instrumental delivery	2
Caesarean section	15
Total	100

Table-2: Maternal outcome

APGAR at birth	No. of babies (N)
Normal APGAR Score at birth (>7/10)	92
APGAR < 7 /10 at birth	8
NICU admission	3

Table-3: Perinatal outcome



Graph-1: LSCS indications

(graph-1).

DISCUSSION

Improper management of labour may lead to fetal morbidity and mortality. Partograph is a effective and cheaper way to monitor the progress of labour. It provides information about maternal and fetal wellbeing. The present study was done to establish the fact Partograph is associated with better labour outcomes, so that the use of partograph becomes a routine practice in all health centres in our country.

In the present study majority of the patients (56%) presented in early labour and the mean age of the patients was 24 years, similar to that in study conducted by Surekha Tayade et al.⁶ Out of the 33 referred cases, referred from rural areas, 23 cases were in active labour, with no partograph attached in the referral slips, indicating the non usage of this simple method of monitoring labour and stressing the need for training at peripheral level. A single sheet of paper, if properly plotted can provide all necessary information at a glance and facilitates handover. It assures the best possible fetomaternal outcome (table-1).

In the present study, it was observed that 83 percent of women delivered vaginally without any operative intervention

(table-2). In a study by Javed et al normal vaginal delivery rate was 88%, which was higher than the present study.⁷

The study by Meena R et al showed that labour was augmented in 10% cases when labour was monitored by modified partograph⁸, while a larger number of cases (24%) required augmentation with oxytocin in the present study.

Instrumental delivery rate in this study was 02 percent, which was lower than that of the studies conducted by Javed et al, who reported operative vaginal delivery in 5.6%⁷ and Meena R et al who showed 11% instrumental delivery rate.⁸ Caesarean section was done for 15% of cases, with second stage caesarean in 4 cases. Caesarean section rate in this study was lower compared to the study by Surekha Tayade et al⁶ in which the caesarean rate was 21% and higher when compared to rates reported by Javed et al and Meena R et al, who showed that caesarian section done in 6.4% and 8% cases respectively.^{7,8}

Commonest indication for caesarean section in this study was Fetal Distress (9 out of 15 caesarean sections accounting for 60%). A multicentric trial study of W.H.O. (1994) showed 8.3% caesarean section rate in modified partograph, which is lesser compared to our study result (15%).⁹

Studies in Mexico and Africa also showed some reduction in the Caesarean section rate, with usage of partogram and timely interventions.¹⁰

Admission rate to NICU was 3% in the present study, which was lower than the study conducted by Surekha Tayade et al. whose study had 6% admission rate.⁶

CONCLUSION

From the observations of the present study, we conclude that routine use of partogram during labour management help in early detection of deviation from normal progress of labour, guiding timely intervention. By using modified WHO partograph for monitoring progress of labour the caesarean section rate (15%) and rate of NICU admission (3%) has been reduced to a significant extent. It is suggested that every woman in labour must be benefitted by this scientific approach of labour management i.e. with the use of Modified WHO partograph and health care personnels in the peripheral areas should be trained in using this simple and effective tool for aiding timely referral to higher centers.

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