



**ANALYSIS OF COMPARISON OF DURATION OF LABOUR IN PRIMIGRAVIDA & MULTIGRAVIDA USING PARTOGRAM**

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**ABSTRACT**

This is a hospital based prospective randomized study conducted at Tertiary health care centre.

**Objective:**

- 1.To study the duration of labour in primi and multi gravidae and also mode of delivery
- 2.To observe labour patterns, effect of cervical effacement on length of labour ,influence of artificial rupture of membranes, oxytocin and type of dysfunctional labour and their management

**Conclusions-** It guides us to interfere in time therefore decreasing the maternal and perinatal morbidity and mortality.

**KEYWORDS :**

**I. INTRODUCTION**

Partograph is a universal tool for monitoring progress of labour. It is a pre-printed paper form on which labour progress observations are recorded [7,8].

The scientific basis in understanding the progress of labour was developed by the historic work of Freidman(1954),who defined the progress of labour by plotting the rate of cervical dilatation against the time and described the sigmoid curve.[1] The graphical display of progress of labour forms the basis of composite labour graph devised by Phillipott5(1972). and endorsed by WHO as simple and accurate instrument for early recognition of complications of labour [2]. Since then several types of partographs have been developed in various countries to suit local needs[4-6]. It is an inexpensive tool designed to provide a continuous pictorial overview of labour and has been shown to improve outcomes when used to monitor and manage labour [3]. The composite partograph was evaluated in a multicenter trial that involved 35,484 women [7]. The results showed that using the partograph reduced prolonged labour by about half (from 6.4% to 3.4% of labours) and the proportion of labours requiring augmentation from 20.7% to 9.1%.

Emergency caesarean sections also reduced from 9.9% to 8.3% and intrapartum stillbirths from 0.5% to 0.3%. The modified WHO partograph currently being used was introduced in 2000 It does not have a latent phase and the active phase starts at 4.0cm cervical dilatation (Figure 1).

evaluation by recording maternal pulse rate, blood pressure and temperature; maintenance of input , output chart, assessment and counting dehydration and ketoacidosis; examination of urine for ketone bodies and other routine tests like urine for albumin, sugar.

3. Progress of labour assessed by: cervical effacement and dilatation; station and descent of presenting part, nature of uterine contractions evaluated clinically by abdominal palpation.

**II. Materials And Methods**

The present study of partographic analysis of labour was conducted in Cama & Albless Hospital Mumbai,during the period May 2018-October 2018. 100 primi gravidae and 100 multigravidae in labour were selected for the study.Either direct admissions into labour ward or those who were admitted in antenatal ward are included in the study.

**Inclusion criteria**

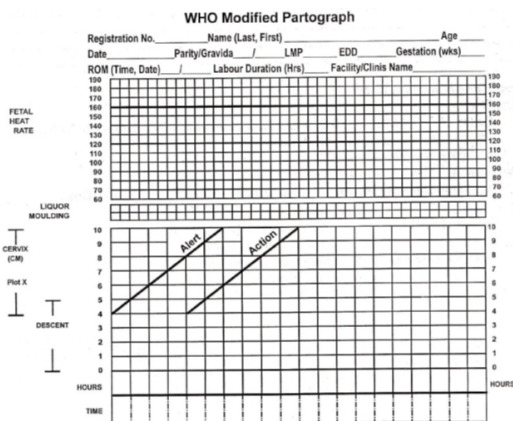
- 1.Term pregnancy of 37-41 completed weeks.
- 2.Cephalic presentations
- 3.Primigravida without CPD
- 4.Spontaneous onset of labour
- 5.Previous cesarean section with non-recurring indication

**Exclusion criteria**

- 1.Multiple pregnancy
- 2.Malposition
- 3.Malpresentation
- 4.Gestational age <37 weeks
- 5.Fetal distress on admission
- 6.Previous two caesarian section
- 7.Fetal malformation
- 8.All absolute indication for caesarean section

On admission to labour room, for each patient, a detailed history was taken, and a thorough examination was done with particular reference to the points as per proforma.

General examination of patient was carried out including height, weight, pulse, BP.They were examined for presence of pallor, edema, icterus and fever.Thorough examination of CVS and RS was done to rule out any kind of systemic diseases. P/A examination was carried out by Leopold's maneuvers. Height of uterus, fullness of flanks was noted. Lie, presentation and position of the foetus were confirmed. Amount of liquor was noted. Part of head palpable in fifths was noted.Duration, intensity and frequency (per 10 minutes) of uterine contractions were noted In all cases labour had started spontaneously. After initial examination frequency, strength duration of uterine contractions and maternal vital data were recorded. Fetal heart rate was noted once in 15min in 1st stage and once in 5 min in the 2nd stage of labour. Per vaginal examination



The 3 important aspects of labour monitored by partograph are 1.fetal well being assessed by :Recording of fetal heart sounds intermittently by Pinard's stethoscope or continuously by electronic fetal monitor; moulding of head; caput formation; meconium stained liquor 2.Maternal well being assessed by: Clinical

was done 2 hourly and more frequently as and when indicated. Points entered on partogram were connected by straight lines All the required data were entered in the partograms systematically. From the partogram , the following were studied:1.Duration of labour in both primi gravidae and multi gravidae with reference to age, parity .2.Duration of labour with reference to Friedman's curve of labour.3. Duration of labour with reference to effacement ,dilatation of cervix, station of presenting part and weight of babies 4.Effect of active intervention on the duration, progress and course of labour.

**III. Results And Analysis**

The present study of partographic analysis of labour was conducted in 100 primi and 100 multigravidae. The labour pattern was described in all of them was similar to that of Friedman's sigmoid curve,with latent phase, acceleration phase and phase of maximum slope.The deceleration phase could be recognized only in few patients.

**1.Total number of patients as per age**

Age	15-20 yrs	21-25yrs	26-30 yrs	31-35 yrs
Patients	40	78	56	26
Primi	28	45	36	12
Multi	12	33	20	14

Out of 200 patients 100 were primigravida and 100 were multigravida.majority of them are in 21-25 years of age group. In the age group of 18-20, 21-25 and 26-32, the percentage of FTNDs were 41.6%, 55.2% and 44% respectively, which was the maximum mode of delivery

Time of admission & onset of labour		primi	Multi
	After 12 hrs	34	25
	Before 12 hrs	66	75

34 % of primigravida went into active labour after 12 hrs of admission & 66% before 12 hrs of admission.whereas 25% of multigravida after 12 hrs of admission & 75 % before 12 hrs of admission.

**3.Average duration of labour in first & second stage**

	Total duration	First stage		Second stage
		Latent	Active	
Primi	13 hrs	8hrs	3hrs	50 min
Multi	9 hrs	6.5hrs	2hrs	25min

**4.Percentage distribution of gravidae according to type of intervention**

Gravidae	Spontaneous delivery	ARM	Oxytocin	ARM+Oxytocin	Total cases of intervention
Primi	58	15	12	15	32
Multi	80	14	2	4	20

According to basic maternal parameters of labour (Table 4) 138 women went into spontaneous labour, augmentation required only in 52 patients Accelerated labour was advocated in 1950 by Lauros of Athens, who administered small doses of oxytocin along with Pethidine to the patients. His study focused on relation of ARM to active phase

**5.Causes of intervention in primigravida & multigravida**

	Prolonged latent phase	Protracted active phase	Secondary arrest of dilatation	Arrest of descent	Combined causes
primi	7	7	5	4	10
Multi	3	3	2	1	7

Out of 100 primigravida 7% of each primi required intervention due to prolonged latent & active phase ,5% primi d/t secondary arrest of

dilatation, in 4% primi d/t arrest of dilatation whereas 10 were combined causes.multigravida required less interventions compared to primigravida.

Mode of delivery	Primi	Multi	Total
Vaginal	90	93	183
Instrumental	10	7	17

Out 100 primigravida 90 delivered vaginally and 10 by forceps while out of 100 multigravida 93 delivered by vaginal route and 7 by forceps delivery.

**IV. DISCUSSION**

Since 1954, when Friedman first reported graphic representation of progress in labor, obstetric caregivers have used the concept of a "Partogram" to aid intrapartum care.[7,8] Friedman s curves were based on observations of cervical dilatation and fetal station graphed against time in hours from the onset of labour. An S-shaped curve of typical cervical dilatation plotted against time was described, and normal durations of labour were defined.

Philpott developed the first formal Partogram in Zimbabwe.[5,6] His aim was to promote early recognition of dystocia and referral of women from remote areas into hospitals with CS facilities. His Partogram combined the graphic details of labour progress, developed by Friedman in 1954, with Hendricks concept of a carefully defined starting time and added information about fetal and maternal condition.[6] Beazley and Kurjak modified the partogram to commence at the first vaginal

In England, Studd et al studied 741 consecutive spontaneous labours to identify high-risk labours that needed oxytocin stimulation.[7,8] Uterine contractions were augmented if progress extended two hours past the limit indicated by the Partogram. This resulted in shorter labours, fewer instrumental deliveries and Caesarean sections, and higher neonatal Apgar scores than in those labours that were not stimulated

- The major observable events that occur during labour are
- 1. frequency, intensity and duration of uterine contraction.
- 2. Descent of fetal presenting part.
- 3. Cervical effacement and dilatation.

In the present series oxytocin accelerated labour effectively and also was a powerful agent for combating inertia, oxytocin induction yielded curves which are normal in all respects indicating that oxytocin produces a physiological labour. In the present study, among primi gravidae 65% people had spontaneous vaginal delivery, assisted delivery with forceps. Among multi gravidae, 80% had spontaneous vaginal delivery. There were only 13% forceps delivery for prolonged second stage.

**V. CONCLUSION**

Labour patterns of 100 Primi gravidae and 100 multi gravidae are studied graphically during the May 2018 to October 2018. Cervical dilatation-time relationship, expressed graphically yielded considerable information regarding progress of labour. The curve noted was characteristically sigmoid in shape.31% of primi gravidae and 10% of multi gravidae needed intervention. There was a marked decrease in active phase and total duration of 1st and 2nd stage with ARM and oxytocin. Their beneficial effects on prolonged labour was well marked. All babies had APGAR 8-10 at 1 and 5 minutes and no perinatal deaths occurred.It reduces unnecessary strain on mothers by reducing total duration of labour, without any increased foetal morbidity and mortality. If accepted as routine procedure, it will be suitable in all situations where the labour room remains busy and congested day and night. Thus, it seems that the value of active management of labour will be realized by most of the obstetricians and it will be accepted as a routine procedure for better and more efficient management of labour

Partogram graphically represents the events of labour and recognizes at risk group requiring acceleration of labour, intensive

monitoring and probable 2nd stage.

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