A Study to Assess the Effectiveness of Monitoring Partograph, as a Tool in Identifying Deviations During Labour Among Parturient Mothers Admitted at Smvmc&H, Puducherry

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INTRODUCTION:

Labour is a process, where women give birth to the child. Labour is a physiological process during which the products of conception (ie, the fetus, membranes, umbilical cord, and placenta) are expelled outside of the uterus. Labour is achieved with changes in the biochemical connective tissue and with gradual effacement and dilatation of the uterine cervix as a result of rhythmic uterine contractions of sufficient frequency, intensity, and duration.

This anticipated period of uncertainty, anxiety and fear, ends with beautiful birth of the baby. Clearly, the support and care they receive during this time is critical. Thus the overall aim of caring for women during labour and birth is to engender, a positive experience for the women and her family, while maintaining their health, preventing complications and responding to emergencies.

NEED FOR THE STUDY:

Approximately half a million women lose their lives every year because of complications of pregnancy and about 99% of these occur in developing countries. The risk of a woman dying as a result of a complication related to pregnancy in developing countries can be as much as a hundred times that of women in Western Europe or North America. An average of 450 women dies for every 1,00,000 live births in the developing world. (governing health systems in Africa-UNICEF)

OBJECTIVES:

1. To assess the progress of the labour using partograph among parturient mothers.
2. To evaluate the role of partograph in identifying the deviations during labour among parturient mothers.
3. To assess the overall outcome of the labour by using partograph among parturient mothers.
4. To associate between the deviations identified during labour with their selected demographic, obstetrical and clinical variables among parturient mothers.
5. To prepare and issue a standard protocol for using partograph in labour for the staff nurse working at SMVMC&H.

RESEARCH METHODOLOGY:

Quantitative research approach with quasi experimental research design was selected. Samples for the present study include the pregnant women in labour and who got admitted at SMVMC&H and who met the inclusion criteria.

The sampling technique used for the study is convenience sampling technique.

The Sample size taken for the study is 112 patients.

TABLE 1 Frequency and Percentage Wise Distribution of Deviations Identified Among Parturient Mothers

N=112

S. no	Nature of deviations	Frequency	Percentage
1.	Favourable	82	73.4%
2.	Needs some intervention	30	26.7%
3.	Unfavourable	0	0

Frequency and Percentage Wise Distribution of Deviations Identified
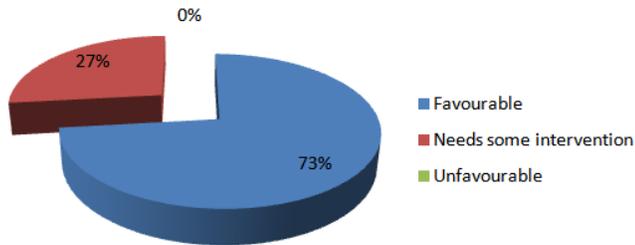
Overall Mean and Standard Deviation of Labour Outcome
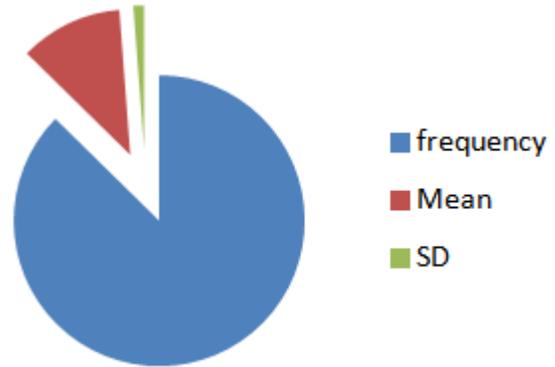
TABLE 2 Overall Mean and Standard Deviation of deviations identified among Parturient Mothers

DEVIATIONS	N	MEAN	SD
Favourable	82	10.74	1.13
Needs some intervention	30	14.83	0.95

TABLE 3 Association between the deviations identified during labour with selected Demographic Variables among Parturient Mothers.

(N=112)

. No.	Demographic Variables	favourable	Needs some intervention	Chi square test	p-value
1.	Age in years:			$\chi^2 = 9.494$ df = 3	0.023 S
	<22	11	1		
	22-25	43	10		
	26-29	12	11		
	>30	16	8		
2.	Occupation:			$\chi^2 = 3.115$ df = 3	0.374 NS
	Sedentary	8	4		
	Moderate	37	8		
	Heavy	2	1		
	Not working	35	17		
3.	Religion:			$\chi^2 = 8.025$ df = 3	0.045 S
	Hindu	55	28		
	Muslims	18	1		
	Christian	8	1		
	Others	1	0		
4.	Educational status:			$\chi^2 = 13.864$ df = 3	0.003 S
	Illiterate	11	9		
	High school	19	9		
	Higher secondary	35	2		
	Graduate	17	10		
5.	Area of residence:			$\chi^2 = 4.200$ df = 1	0.040 S
	Rural	9	8		
	Urban	73	22		
6.	Type of marriage:			$\chi^2 = 26.023$ df = 1	0.0001 S
	Non-consanguineous	70	11		
	Consanguineous	12	19		
7.	Number of years in married life:			$\chi^2 = 0.876$ df = 3	0.831 NS
	<1 year	13	3		
	2-3 years	37	16		
	4-5 years	20	7		
	> 6 years	12	4		

8.	Diet Pattern:			$\chi^2 = 0.369$ df = 1	0.543 NS
	Vegetarian	1	0		
	Non-vegetarian	81	30		

TABLE 4 Association between the deviations identified during labour with Selected Obstetrical Variables among Parturient Mothers

N=112

S. No.	Demographic Variables	favourable	Needs some intervention	Chi square test	p-value
1.	Number of gravida:			$\chi^2 = 0.158$ df = 1	0.691 NS
	Primi	39	13		
	Multi	43	17		
2.	Order of Pregnancy:			$\chi^2 = 1.472$ df = 1	0.689 NS
	1	38	13		
	2	27	13		
	3	11	3		
	>3	6	1		
3.	Status of booking:			$\chi^2 = 3.693$ df = 1	0.055 S
	Booked	76	24		
	Unbooked	6	6		
4.	Whether you have went for regular antenatal check up:			$\chi^2 = 1.542$ df = 1	0.214 NS
	Yes	73	24		
	No	9	6		
5.	Whether you have taken inj.TT immunization periodically:			$\chi^2 = 2.107$ df = 1	0.147 NS
	Yes	74	24		
	No	8	6		
6.	Had any complication during pregnancy:			$\chi^2 = 2.319$ df = 1	0.128 NS
	No	76	30		
	Yes	6	0		
7.	Weeks of gestation:			$\chi^2 = 9.591$ df = 2	0.008 S
	<35 weeks	0	0		
	35 weeks+1day to 36 weeks	1	4		
	36 weeks+1day to 37 weeks	5	4		
	>37 weeks	76	22		
8.	Any history of medical illness during pregnancy:			NA	NA
	Yes	0	0		
	No	82	30		
9.	No. of live births:			$\chi^2 = 3.160$ df = 3	0.368 NS
	None	45	14		
	1	25	14		
	2	11	2		
	>3	1	0		
10.	No. of Abortion:			$\chi^2 = 1.571$ df = 2	0.456 NS
	Nil	69	27		
	1	9	3		
	2	4	0		
	>3	0	0		

TABLE 5 Association between the deviations identified during labour with Selected Clinical Variables among Parturient Mothers.

N=112

S. No.	Demographic Variables	favourable	Needs some intervention	Chi square test	p-value
1.	Cervical dilatation at the time of admission:			$\chi^2 = 6.212$ $df = 2$	0.045 S
	No dilatation	25	15		
	1-4 cm	47	15		
	5-8 cm	10	0		
	9-10 cm	0	0		
2.	Descent of head at the time of admission:			$\chi^2 = 10.922$ $df = 4$	0.027 S
	Floating above the brim (5/5)	24	11		
	Fixing (4/5)	13	11		
	Not engaged (3/5)	23	7		
	Just engaged (2/5)	21	1		
	Engaged (1/5)	1	0		
	Deeplyengaged (0/5)	0	0		
3.	Duration of labour:			$\chi^2 = 48.446$ $df = 1$	0.0001 S
	Prolonged	19	29		
	Normal	63	1		
4.	Had any maternal complication:			$\chi^2 = 38.150$ $df = 1$	0.0001 S
	No	54	0		
	Yes	28	30		
5.	Type of delivery:			$\chi^2 = 41.579$ $df = 1$	0.0001 S
	Spontaneous vaginal delivery	59	1		
	Induced delivery	23	29		
6.	Mode of delivery:			$\chi^2 = 43.784$ $df = 2$	0.0001 S
	Normal vaginal delivery	57	0		
	Assisted vaginal delivery	6	4		
	Elective caesarean section	0	0		
	Emergency caesarean section	19	26		
7.	Membranes:			$\chi^2 = 1.744$ $df = 1$	0.187 NS
	Intact	52	23		
	Ruptured	30	7		
8.	Amniotic fluid:			$\chi^2 = 0.983$ $df = 1$	0.321 NS
	Clear	78	27		
	Green	4	3		
	Black	0	0		
	Golden	0	0		

	Condition of baby after delivery:			NA	NA
9.					
	Alive	82	30		
	Death	0	0		
10.	Baby APGAR score at 1min			$\chi^2 = 20.950$ df = 1	0.0001 S
	<4	0	0		
	5-7	17	20		
	8-10	65	10		
11.	Baby APGAR score at 5min			$\chi^2 = 0.369$ df = 1	0.543 NS
	<4	0	0		
	5-7	1	0		
	8-10	81	30		
12.	Caput:			$\chi^2 = 32.500$ df = 2	0.0001 S
	Absent (0)	55	2		
	Minimal (+1)	22	21		
	Moderate (+2)	5	7		
	Excessive (+3)	0	0		
13.	Neonatal complication:			$\chi^2 = 31.613$ df = 1 S	0.0001 S
	Yes	16	23		
	No	66	7		
14.	Cephalohematoma:			NA	
	Present	0	0		
	Absent	82	30		

*p<0.05, significant and ** p<0.001 highly significant*

INCLUSION CRITERIA:
➢ Pregnant women admitted for labour (from the onset of pain till delivery).
➢ Singleton pregnancy
➢ Both primi and multi mothers

EXCLUSION CRITERIA:
➢ Women with cervical dilatation at the late stage of latent phase during admission in labour room
➢ Women with ultrasound findings as Intra Uterine Death(IUD)
➢ Women whose pregnancy is pre diagnosed with high risk condition.

DESCRIPTION OF TOOL:
The data collection tool consists of 5 sections:
Part I- Demographic data
A. Demographic variables of the parturient mothers

B. Obstetrical variables of the parturient mothers
C. Clinical variables of the parturient mothers
Part II- WHO Partograph
Part III- Deviation assessment scale
Part IV- Outcome evaluation scale
Part V- Protocol

RESULTS:
The effectiveness of the partograph were assessed for 112 samples, out of them 82(73.4) % of parturient mothers belongs to favorable condition, 30(26.7) % of parturient mothers belongs to the category who needs some intervention and no parturient mothers were in unfavorable condition.

The favorable condition was assessed by the total range score from 10-13 out of that , the overall average score is 10.74 with the standard deviation of

1.13, and the needs some intervention was assessed by the total range score from 14-17 out of that , the overall average score is 14.83 with the standard deviations of 0.95.

It was statistically found that age, religion, educational status, area of residence, type of marriage, status of booking, weeks of gestation, cervical dilatation at the time of admission, descent of head at the time of admission, duration of labour, maternal complications, type of delivery, mode of delivery, caput and neonatal complication were significant with the p value <0.0001.

CONCLUSION:

The studies implies that the effectiveness of using partograph among parturient mothers who is labour were high. And thus partograph is an effective tool in identifying the deviation during labour among parturient mothers.

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