

## Paperless Partogram- Bedside Tool for Effective and Vigilant Management of Labour.

Aditi Jain\*, Rajni Parikh\*\*, Vishwa Kanabar\*\*\*

\* Third Year Resident, \*\* Head Of Unit, \*\*\* Assistant Professor, Department Of Obstetrics And Gynaecology , Government Medical College , Bhavnagar , 364001, India

**Abstract:** Background: My paper on paperless partogram is basically to evaluate prospectively ,its effectiveness as a bedside tool on the vigilant management of labour , prevention of any prolonged labour that may lead to adverse obstretical outcome. Methods: The present study was conducted in the department of obstetrics and gynaecology at SIR-T hospital , Government medical college ,Bhavnagar during the period from 1<sup>st</sup> may 2016 to 1<sup>st</sup>july 2016, 100 antenatal women in active phase of labour who fulfilled the inclusion criteria were included in the study, for their course of labour two time, ALERT and ACTION time were calculated to look for any deviation in normal course of labour. The time at which the patient becomes 4 centimeter dilataion is considered as starting of Active phase of labour .Now ALERT TIME is calculated by adding 6 hours to this time of active labour , while ACTION TIME is calculated by further adding 4 hours to ALERT TIME , this is in consideration to Friedmann common rule that in active phase of labour patient should dilate at a rate of 1 centimeter per hour, any prolongation from these time targets are considered as abnormal progress of labour ,and hence intervention is required. Results: From the sample size of 100, 26 were primigravidae of which 8 were induced and 18 were in spontaneous labour, rest from 74 multigravidae ,9 were induced and 65 were in spontaneous labour. The average time after alert ETD in primigravidae was 3.4hrs and in multigravidae was 2.4hrs and LSCS was done in 2 patients. Conclusion: Based on the findings of above study ,it is concluded that paperless partogram was found to be convenient and effective handover tool in the management of labour and in prevention of prolonged labour ,thus improving maternal and fetal outcome. [Aditi J NJIRM 2017; 8(2):158-160]

**Key Words:** Alert time, Action time, Friedmann.

**Author for correspondence:** Aditi Jain, 1147'A, Arya Nagar, Shrinagar Road, Ajmer – 305001, Rajasthan.

M: 9898792444 E-Mail: aditijain00000@gmail.com

**Introduction:** Partogram is one of the most important advances in modern obstretical care and vital for effective management of labour. WHO has recommended its universal use and has advocated it as an important tool to monitor the normal progress of labour.Partogram basically includes a pre- printed paper that not only monitors cervical dilatation of the patient in labour but also includes important variables like fetal heart rate ,vitals of the patient, station, drugs given etc. It was first introduced by Friedman in 1954 and later modified by Philpott and Castle by adding the so called ALERT LINE AND ACTION LINES to the graph.It is well known that about 1 percent still birth and 4 percent neonatal deaths occur in developing countries with 160 maternal mortality occurring in labour daily due to lack of proper monitoring. Continous monitoring of labour with provision of rapid care , timely referral and transport are vital to prevent adverse obstretical outcome.However ,the use of this partogram ,though universally recommended by WHO ,has been questioned by various health care practitioners, regarding its effectiveness in various developing countries with limited resources. At places it has been considered as a interference to clinical work with high patient load , overburden to health care workers and at times wrongly interpreted by local health care providers.Therefore in view to save

the precious time of the overburdened health care providers and at the same time maintaining that vigilance of obtretical care monitoring ,that is vital for a safe progress of labour ,Dr DEBDAS has proposed a new low skill method for prevention of prolonged labour , PAPERLESS PARTOGRAM .Thus this study is done to evaluate the effectiveness of paperless partogram as a bedside tool to monitor the normal progress of labour .

**Methods:** The present study was conducted in the Department of Obstretics and Gynaecology at Sir Takhtsinhji Hospital, Government Medical College ,Bhavnagar during the period from 1<sup>st</sup> May 2016 to 1<sup>st</sup>july 2016. 100 cases of antenatal women in active phase of labour who fulfilled the inclusion criteria were included in the study.

**Inclusion criteria:**

- Antenatal women with 36 to 42 weeks of pregnancy,who are admitted in the labour ward and giving informed consent.
- Singleton pregnancy with cephalic presentation.

**Exclusion:**

- Antenatal women with non cephalic presentation or with known case of major fetal structural anomaly.

- Women having previous history of uterine surgery.
- With any acute obstretical complication like APH /severe Pre-eclampsia.

**Method:** All the women who met the inclusion criteria were included in the study. And then ,when patient reached 4 centimeter of cervical dilatation in a spontaneous labour , we calculated two important time- the ALERT ETD(estimated time of delivery) and ACTION ETD. This is based on the Friedmann’s widely accepted rule that the cervical dilataionoccurs as 1cm /hour when the women is in active phase of labour. Adding 6 to the time when the women reaches 4cm dilataion will give ALERT ETD and then adding 4 to this ALERT ETD we will get ACTION ETD. Now both of this time were written on the indoor paper of the women ,with action ETD encircled with red pen.Now if at the time of ACTION ETD ,if the women has not been delivered, a diagnoses of abnormal labour is made and arrangements were made for emergency obstretical care, and delivery was conducted either with suitable medical /surgical intervention that may include either medical or surgical methods for augmentation of labour/ cesarian section was planned .

**Results and discussion:**

**Table1:**

Parameters	Mean value
Mean Age	24.55
Mean duration of gestation	38.17
Mean Weight of Patients	65.19
Mean systolic BP	119.5
Mean diastolic BP	77.95
Mean baby weight	2.7
Mean duration after ETD	2.19

Table 1 shows the basic parameters of all the antenatal patients, which shows that 24.55 years was the mean age of participants and mean gestation age was 38.17 weeks.

The mean weight was65.19 kgs,mean systolic BP was 119.5 mmofHg and mean diastolic BP was 77.95 mmof Hg the mean weight of the new born child was 2.7kgs and mean duration of delivery after ALERT ETD was 2.19 hours.

**Table: 2**

Mode of delivery	Primigravidae	Multigravidae
Spontaneous	16	65
Induced	8	9
Cesarian	2	0

Table 2 basically shows the distribution of participants according the mode of delivery out of the 26 primigravidae ,spontaneous delivery took place in16 and 8 were induced.

Out of the 74multipara 65 delivered spontaneously and 9 were induced.

**Table: 3**

Time Taken After ETD	Primigravidae	Multigravidae
	3.4hours	2.4hours

TABLE 3 shows the time taken after ALERT ETD in study participants.the mean duration in primigravidae was 3.4 hours and in multigraviadae was 2.4 hours

**Discussion:** The partogram is a tool that enables midwives and obstretition to record maternal and fetal obseravation simply and pictorially. It is an simple and effective way to monitor the normal progress of labour ,its use has been universally recommended by WHO ,but still its application is limited espically in low resource settings. Thus by the statistical analysis in my study it is clear that management and monitoring for normal progress of labour in order to reduce obstretical complications, when done with paperless partogram helps in reducing prolonged/abnormal labour and hence decreased maternal and fetal morbidity and mortality. It basically is less time consuming, more user friendly easily acceptable and provides a quick review about the progress of labour, and thus helps the overburderned staff in their labour Vigilance. In our study 80 percent patients were spontaneously delivered ,20 percent were induced as per the decision made with monitoring of paperless partogram and it helped in prevention of abnormal labour., the mean time after ALERT ETD was 3.4hrs in primigravidae and 2.4hrs in multigravidae. which was similar to the WHO recommendation for partograms with a four hour action line ,denoting timely intervention for prevention of prolonged labour.

**Conclusion:** Based on our above study findings, it is concluded that paperless partogram was found convenient and effective hand over tool in management of labour and prevention of abnormal/prolonged labour thus reducing the rates of cesarian section and improving maternal and neonatal outcome. even after WHO simplified partograph

model to make it more user friendly in 2000, the partograph is still rarely used in low resource areas therefore it will be very useful for use in peripheral setup where delivery are conducted by ASHA, ANM and Nursing staff. Dr DEBDAS believes that partograph is simply too time consuming for overburdened clinician and too complicated for various skilled birth attendants. It illustrates the potential for about 20 seconds and two time stamps to help save the mothers and babies without any additional cost requirement

**Acknowledgment:** “As we express our gratitude we must never forget that the highest appreciation is not to utter words, but to live by them” .I would like to express my sincere thanks and hearty gratitude to Dr. Rajni Parikh (M.D), Head of unit ,Associate professor ,Department of Obstetrics and Gynaecology , Government medical college ,Bhavnagar, whose valuable guidance and generous support facilitated me to accomplish my paper. I would also like to thank our Associate professor and head of Department Dr. Gunvant .K. Kadikar (M.D) ,whose permission support and appreciation helped me to complete my work .I must not forget to thank all my teachers and colleagues for their support during the course of my paper. I was blessed to have received help from all of them. I would also like to express my gratitude to all the patients who were a part of this study and would like to enlighten the fact that without their cooperation and support this study was not possible. Last but not the least as we say I would like to devote this dissertation to my parents, family and friends. With their faith , support , belief I was able to cross all the hurdles to complete my study.

**Reference:**

1. Zupan J. Perinatal mortality in developing countries. N Engl J Med. 2005;352:2047–8. [PubMed]
2. Geneva: World Health Organization; 2007. Maternal mortality in 2005: Estimates developed by WHO, UNICEF, UNFPA and the World Bank.
3. Friedman E. Graphic analysis of labor. Am J Obstet Gynecol. 1954;68:1568–75. [PubMed]
4. Philpott RH, Castle WM. Cervicographs in the management of labour in primigravidae. J ObstetGynaecol Br Commonw. 1972;79:592–8. [PubMed]

5. WHO. World Health Organization partograph in management of labour. Lancet. 1994;343:1399–404. [PubMed]
6. Groeschel N, Glover P. The partograph. Used daily but rarely questioned. Aust J Midwifery. 2001;14:22–7. [PubMed]
7. Lavender T, Malcolmson L. Is the partogram a help or a hindrance? Pract Midwife. 1999;2:23–7. [PubMed]
8. Walraven GE. WHO partograph. Lancet. 1994;344:617. [PubMed]
9. Lavender T, Hart A, Smyth RM. Effect of partogram use on outcomes for women in spontaneous labour at term. Cochrane Database Syst Rev. 2008;CD005461. [PubMed]
10. Debdas AK. Paperless partogram. 41<sup>st</sup> Annual Scientific Sessions 2008: Sri Lanka College of Obstetrics and Gynaecologists. SLJOG vol. 30. 2008;1:124.
11. Friedman EA. Primigravidlabour. A graphicostatistical analysis. Obstet Gynecol. 1955;6:567–89. [PubMed]
12. Cartmill RS, Thornton JG. Effect of presentation of partogram on obstetric decision making. Lancet. 1992;339:1520–2. [PubMed]
13. Lavender T, Alfirovic Z, Walkinshaw S. Partogram action line study: A randomised trial. Br J ObstetGynaecol. 1998;105:976–80. [PubMed]
14. Tay SK, Yong TT. Visual effect of partogram designs on the management and outcome of labour. Aust N Z J ObstetGynaecol. 1996;36:395–400. [PubMed]
15. Lavender T, Alfirovic Z, Walkinshaw S. Effect of different partogram action lines on birth outcomes: A randomized controlled trial. Obstet Gynecol. 2006;108:295–302. [PubMed]

Conflict of interest: None
Funding: None
Cite this Article as: Aditi J, Rajni P, Vishwa K. Paperless Partogram- Bedside Tool for Effective and Vigilant Management of Labour.. Natl J Integr Res Med 2017; 8(2):158-160