

Pain relief in Labour: An Indian Perspective

Kartikeya Bhagat

Shirish N Daftary

Labour Pain is about the worst suffering that can afflict mankind - it is considered as one of the strongest pains a human being experiences. It is only humane to give pain relief to every parturient and NO woman should be denied pain relief in labour. It is the RIGHT of every woman to expect pain relief from her attending Obstetrician and the Physician is bound by the Hippocratic oath to provide cure, relief and alleviate human suffering.

India is a large country – the facilities for care of pregnant women vary in urban and rural communities and there is a wide variation in quality and quantum of obstetric care and supervision. The method of pain relief will depend on available circumstances and training.

ACOG& ASA state *“Labor results in severe pain for many women. There is no other circumstance where it is considered acceptable for a person to experience untreated severe pain, amenable to safe intervention, while under a physician’s care... Maternal request is a sufficient medical indication for pain relief during labor.”*

Options available for pain relief in labour

Various methods have been developed over the years to give pain relief in labour, ranging from presence of a companion, hot bath, body massage, aroma oils/ scents, TENS and medications, apart from the vocal admonishments used by the birth attendants. The search for medication led to introduction of inhalation anaesthesia and analgesics to provide pain relief. Morphine and Pethidine had been used extensively in the past. – however, they fell in disrepute because of the sedative effect and respiratory depression in the neonate. Newer drugs like Pentazocine and Tramadol have replaced the narcotics. Epidural Labour Analgesia (EA) has gained in popularity in the developed world. The use of Sevoflurane and very short acting anaesthetic agents like Fentanyl is on the rise and Remifentanyl is just round the corner.

However, in India, where a large part of the population resides in rural localities / small towns and deliveries take place in small maternity homes – this facility is by far and large, scarce to ava

Methods of Pain Relief in Labour

Pharmacological	Invasive	Practical Options	
<ul style="list-style-type: none"> • Inhaled Analgesia • Parenteral Opioids • non-Opioid Drugs <ul style="list-style-type: none"> • Paracetamol • NSAIDS • Sedatives (barbiturates, phenothiazines, benzodiazepines) • Anti-Spasmotics (hyoscine) 	<ul style="list-style-type: none"> • Perineal Infiltration • Pudendal Block • Saddle Block • Epidural Analgesia • Combined Spinal-Epidural Analgesia 	Pharmacological <ul style="list-style-type: none"> • Morphine/ Pethidine • Pentazocine • Tramadol • Diazepam • Midazolam • Ketamine • Fentanyl • Entonox(O₂+N₂O), Sevoflurane 	Regional Anaesthesia <ul style="list-style-type: none"> • Perineal Infiltration • Pudendal Block • Saddle Block • Epidural Analgesia • Combined Spinal-Epidural Analgesia

Practical solutions available for pain relief in labour today in metropolitan towns and in institutional practice are Epidural Labour Analgesia(EA)/ Medications/ Inhalation agents – Entonox(Oxygen + Nitrous Oxide, 50%) or Sevoflurane.

Epidural Labour Analgesia:

- The best method for pain relief today
- Pain relief to the extent of 80-90%, most of the times
- However, it is a surgical procedure with inherent risks
- Side effects/ risks include patchy action, partial pain relief, hypotension, occasional irregular FRS, headache, partial paresis, Dural punctureetc
- Requires an expert Anaesthetist willing to sit by the patient's side till delivery
- Cost
- Not feasible in rural/ low resource settings

Entonox(Oxygen + Nitrous Oxide, 50%):

- Easy to use
- Pain relief just adequate especially in early labour; not very effective in advanced labour
- No major side effects
- not very commonly used because of the cost and limited availability of equipment

Medications:

Opioids have been used for a long time with significant side effects. Drugs available for pain relief are Tramadol Hydrochloride, Pentazocine, Diazepam, Midazolam, Ketamine, Fentanyl and Inhalation Agents Nitrous Oxide and Sevoflurane. All these drugs, when used as single agents, need to be used in a larger quantity which may increase their side effects and have erratic safety profile for the baby. The concept of Programmed Labour was developed to provide maximum pain relief with minimum side effects to every woman in labour where basic monitoring is possible irrespective of the infrastructure.

Concept of Programmed Labour

Programmed Labour is an indigenously developed protocol of labour management to be used by an Obstetrician to optimise obstetric outcomes, especially in low resource settings where an expert Anaesthetist may not be available. At the N Wadia Maternity Hospital Prof. S N Daftary studied labour outcomes (1988-1993) and described a protocol for pain relief in labour which helped improve obstetric outcomes. The protocol had been approved by the ethics committee which included a Paediatrician and Anaesthesiologist.

The drugs they used, from the options available at that time, were Diazepam, Pentazocin, Tramadol hydrochloride, Drotavarin and Ketamine. The logic underlying the designing of the protocol was to use a combination of analgesic drugs in lower doses to achieve a synergistic effect (Diazepam: a benzodiazepine, an Anxiolytic, in 1/5th the dose; Pentazocine: a strong opioid, in a 1/5th analgesic dose and Ketamine: a dissociative anaesthetic in 1/4th the anaesthetic dose) – to obtain the desired level of pain relief without jeopardizing maternal / fetal outcomes. This simple protocol can be implemented with confidence by an obstetrician himself/herself. It doesn't require presence of an expert Anaesthetist.

Drugs used in Programmed Labour						
Group	Drug	Anaesthetic dose	Analgesic dose	onset of action	Duration	side effects
Opiates	Pentazocine		0.5mg/kg	30 sec	30 - 60 min	Nausea, vomiting CNS and Respiratory depression
	Tramadol		1 mg/kg	30 - 60 min(l	2 - 4 hours	nausea, vomiting

				M injection)		
	Fentanyl	1- 2 mcg/kg	0.1- 0.5 mcg/ kg	30 sec	15 - 20 min	Respiratory Depression
Benzodiazepines						
Anxiolytic	Diazepam	2-4 mg/ kg	0.5 mg/k g, as an addit ive	30 sec	40 min	Local Irritation, Sedation, dizziness, Respiratory depression, Silent Regurgitation, Agitation
	Midazolam	0.1mg/ kg	0.05 mg/k g	30 sec	30 min	apnoea, bradyapnoea
Dissociative Anaesthetic	Ketamine	2mg/ kg	0.5m g/ kg	30 sec	30 - 60 min	Hallucinations Excess secretions Hypertonicity Silent Regurgitation
Antispasmodic	Drotavarin	40mg				Hypotension
Local Anaesthetic	Xylocaine	3-4 mg/kg, (upper limit)	0.05- 0.1m g/ kg,2- 4 times diluti on	2-3 mins	30- 45 mins	Allergic reactions, Convulsions, Anaphylaxis

Apart from pain relief, the other aspects of the Programmed Labour involve use of an oxytocic to augment labour when required to optimise labour pains, the use of Partogram to monitor closely the progress of labour and Active Management of the 3rd stage of Labour with use of Uterotonics.

Outcomes evaluated broadly revealed that “*Programmed Labour*” protocol” conferred the following benefits:

- significant pain relief
- considerable amnesia of the painful events of labour
- shorter duration of labour
- significant reduction in dystocia
- reduction in the number of instrumental assisted (forceps/ventouse) deliveries
- reduction in the Caesarean Section rates for dystocias
- reduced duration of the third stage of labour, and marked reduction of blood loss
- Satisfactory perinatal outcome
- Maternal satisfaction

The Programmed Labour Protocol has been used extensively by many Obstetricians from different parts of the country working in different setups – small maternity units in semirural areas, hospitals in urban areas, tertiary care centres and teaching hospitals.

Summary: Observations from some of the studies reported in literature are presented here in tabular form.

Programmed Labour – Review of Literature Pain Scores and Relief Scores

Serial No.	Centre / year	Authors	Pain Scores.		Pain Relief Score	
			Moderate	Severe	Moderate	Substantial
1	S.Nagar 2015	A. Shaikh	33.3%	66.6%	13.8%	86.2%
2	Ludhiana 2006	V. Yuel	25.0%	75.0%	25.0%	75.0%
3.	Gulbarga 2014	Konin S.	83.0%	17.0%	20.0%	80.0%
4.	Mumbai 2009	Bhide A.G.	34.0%	66.0%	20.0%	80.0%
5.	Ajmer 2010	Meena J.	45.0%	55.0%	8.0%	92.0%
6.	Guntur 2012	Madhavi	28.0%	72.0%	10.0%	90.0%
7.	Trichy 2003	Shivamurthy	11.0%	89.0%	12.0%	88.0%
8.	Udaipur 2016	Sharma N.	10.0%	90.0%	14.0%	86.0%
9.	Kolkatta 2010	Guha P.	15.0%	85.0%	35.0%	65.0%

Mean Rates of Cervical Dilatation, Duration of stages of Labour and Blood loss in the THIRD STAGE – Literature Review

Author / Centre / Year	Mean Rate of Cervical Dilatation	Maen Duration of Stages of labour			Estimated Blood Loss after Delivery
		1 st .	2 nd .	3 rd .	
Ahmed et al. 2015 Mumbai	Study - 2.3cm/hr	S - 3.7 h	25 min.	4.2 min.	S – 80 mL
	Control – 1.4cm/h	C – 5.5 h	38 min.	7.7 min.	C - 200 mL
Yuel V et al. 2016 Ludhiana	Study – 2.4cm/h	S – 4.0 h	30 min.	4.0 min.	S – 75 mL
	Control – 1.2 cm/h	C – 6.2 h	45 min	8.0 min	C - 175 mL
Bhide et al. 2009 Mumbai	Study – 2.5 cm/h	S – 3.05h	22 min	5.0 min	S – 60 mL
	Control – 1.2 cm/h	C – 5.2h	48 min	7.5 min	C – 110 mL
Meena et al. 2006 Ajmer	Study – 2.4 cm/h	S – 3.2h	22 min	4.0 min	S – 40 mL
	Control – 1.4 cm/h	C – 4.5h	32 min	7.0 min	C – 80 mL
Madhavi 2015 Gulbarga	Study – 2.4 cm/h	S – 2.5h	25 min	5.0 min	S – 40 mL
	Control – 1.2 cm/h	C – 5.0h	60 min	6.0 min	C – 80 mL
Sharma et al 2016 Udaipur	Study – 2.5 cm/h	S – 5.5h	17 min	8.0 min	S – 100 mL
	Control – 1.2 cm/h	C – 8.5h	30 min	12 min	C – 140 mL

Programmed Labour – Mode of Delivery Literature Review

S.NO.	Centre & Year,	Author	Modes of Delivery		
			Normal Vag.	Instrumental Vaginal Deliv.	C. Section
1.	Mumbai - 2015	Shaikh Ahmed	83.3%	10.2%	6.5%
2.	Lodhiana - 2008	V.I. Yuel	86.7%	3.3%	6.0%
3.	Gulbarga - 2014	Konin S.	96.0%	3.0%	1.0%
4.	Mumbai - 2009	Bhide AG	66.0%	22.0%	12.0%
5.	Ajmer - 2006	Meena J.	98.0%	Nil	2.0%
6.	Gulbarga - 2015	Madhavi	84.0%	12.0%	4.0%
7.	Trichy - 2003	Shivmurthy	97.0%	2.0%	1.0%
8.	Kolkatta - 2010	P. Guha	93.0%	5.0%	2.0%
9.	Srinagar - 2011	S. Mir	90.0%	6.0%	4.0%
10.	Vijaynagar 2015	Shreelatha	90.0%	7.0%	3.0%

Programmed Labour – Maternal & Perinatal Outcomes

S.No.	Centre & Year	Author	Maternal Side effects	Maternal Satisfaction	APGAR < 7 1.0 m./ 5.0m		PNMR
1.	Mumbai - 2015	Shaikh Ahmed	Tachycardia, G.I upset, drowsiness	High degree of satisfaction	2	50	Nil
2.	Ludhiana - 2008	V.I.Yuel	Tachycardia, G.I.Upset	Great satisfaction	2	Nil	Nil
3.	Gulbarga - 2014	Konin S.	Loose stool	Excellent	Nil	Nil	Nil
4.	Mumbai - 2009	Bhide A.G.	G.I. Upset	Great	Nil	Nil	Nil
5.	Ajmer - 2006	Meena J.	Mild nausea	Great Satisfaction	Nil	Nil	Nil
6.	Gulbarga -2015	Madhavi K.	G.I.Upset	Excellent	Nil	Nil	Nil
7.	Trichy - 2003	Shivamurthy	Mild G.I Upset	Very Satisfied	NIL	Nil	Nil
8.	Udaipur - 2016	Sharma	Vomiting	Great experience	Nil	Nil	Nil
9.	Srinagar - 2011	S. Mir	Nil significant	Grateful	Nil	Nil	Nil

Practical aspects of using Programmed Labour Protocol

- **When do you offer pain relief to a parturient?**

Perception of pain differs with every parturient.

Pain relief is offered generally only after we confirm that the patient is in active labour: getting 3 - 4 contractions in 10 mins, each lasting for 30 - 40 secs, cervix 3 - 4 cm dilated, membranes absent, liquor clear, presenting part vertex and most important, there should be no contraindications to normal delivery.

Early pain relief may prolong the latent phase of labour.

- **Consent**

Should be taken: oral consent to be taken, written consent preferred

patient to be counselled earlier in the antenatal period about pain relief; relations to be counselled just before injecting the drugs

- **Programmed Labour Protocol**

Set up an I.V. line with Ringer solution, add oxytocin s.o.s if the uterine contractions are not optimal

1st. step:

Injection Diazepam 10 mg (2 ml in 1 ampoule) and Injection Pentazocine 30 mg (1 ml in 1 ampoule) to be diluted with 7ml of distilled water in a 10cc syringe.

- this makes a cloudy solution, gives a concentration of **1mg Diazepam and 3 mg Pentazocine in every ml.**

- inject 2 cc IV slowly: 2mg Diazepam and 6 mg Pentazocine. The IV dose (2mg Diazepam + 6mg Pentazocine) acts immediately, effect lasts for 30 – 60 minutes. Inform the patient that she will feel a little heavy headed and sleepy. In a few minutes, the pain eases out and the patient feels sleepy, especially between contractions, waking up slightly during contractions. Monitor vitals and FHS.

2nd step:

- Inj Tramadol 50mg (1ml) and Inj Drotavarine 40mg (1ml) are given IM at the same time.

the IM dose (50mg Tramadol HCl + 40 mg Drotavarine) starts working in 30 mins by that time the effect of IV drugs is starting to wear off

Pain relief is immediate and considerable, patient feels comfortable and sleepy. The rate of cervical dilation gets enhanced (doubles). Most patients will reach the cervical dilation of upto 7 cm in the next 2 – 4 hours or so before the effect of the drugs wears off

- this regimen works for almost 80% of cases
- Pain relief produced is adequate for most patients

However, 20 % patients require additional pain relief after 7 cm when the head presses on the perineum. This is the time when the use of Ketamine may be considered.

3rd step:

- Inj Ketamine (50mg/ ml vial) 1 ml and Inj Midazolam (10mg/ ml) 1 ml diluted to 10 ml.

- This gives a concentration of **5 mg/ml of Ketamine and 1 mg/ml of Midazolam** to be given slowly in smaller doses till optimal effect is achieved.

- Most patients get adequate pain relief with 12 - 20mg Ketamine: do not exceed the dose of 25mg.

- Midazolam prevents hallucinations caused by ketamine.

- Do not use Ketamine if you are expecting the delivery within the next 25 minutes.

The anaesthetic dose of Ketamine is 2mg/kg, recommended dose of Ketamine is 0.5mg/kg, 1/4th the Anaesthetic dose.

Programmed Labour Protocol advocates the use of Ketamine in the dose not exceeding 0.5mg/kg, 1/4th of the Anaesthetic dose. Hallucinations is a problem some women will face, if not primed with Diazepam earlier. Addition of Midazolam may counter this effect in the dilution of 1mg/ml along with Ketamine.

Pain, in advanced labour, when the head is pounding the perineum before crowning, is not taken away by any drugs or even Epidural Analgesia (EA).

4th step:

The only technique that works at this juncture is **Pudendal Block along with Perineal Infiltration**: no other medicine works, including Epidural A. Use 10 cc of 1% plain Lignocaine, to be injected at the level of the ischial spines on both the sides, thru a transvaginal or a transperineal approach. Be careful, aspirate before injecting the drug.

- **Extent of Pain Relief and effects on the Baby**

The **Programmed Labour Protocol** gives adequate pain relief to most patients. If you consider pain relief with Epidural A at 80-90%, pain relief with the protocol is 60-70% and most patients are happy with it.

Apart from temporary sedation, there are no side effects on the mother. However, because of the pain relief, the cervical dilatation is faster and the labour is shorter. The mother is not exhausted or tired and is eager to breastfeed her baby. The baby is not depressed and cries immediately after birth, is capable of doing the Breast Crawl and ready to latch onto the breast.

- **Discussion**

Drugs used are

1. Diazepam: a benzodiazepine, an Anxiolytic, in 1/5th the dose
2. Pentazocine: a strong opioid, used in a 1/5th analgesic dose
3. Tramadol: an opioid like analgesic with a delayed action effective for a longer period
4. Drotavarine: an antispasmodic in standard dose assists cervical dilation.
5. Ketamine: dissociative anaesthetic

All the Drugs have side effects, on the mother and the baby. The side effects, however, are dose dependent. By reducing the dose, we reduce the side

effects. By using a combination of drugs, we maximise the pharmacological actions. Drug synergism helps not only the pain relief but also enhances the rate of cervical dilation and minimizes the side effects.

Since the publication of this article in the FOGSI Journal, Many obstetrician colleagues have used it and published papers in various journals. In the year 2005, during the presidential year of Prof. Shyam Desai – the FOGSI theme adopted was “Optimizing the outcome of labour” when Dr. Shyam Desai (President), Dr. Hema Divakar (Senior Vice President) and Dr. Uday Thanawala (Secretary to the president) organized many workshops in various parts of the country. Several colleagues from all parts of our country have adopted it, and published their experiences in various journals.

Review of Literature

Since its publication, many authors have evaluated the Protocol and published/spoken about their experiences from varied platforms. A summary of their experiences is presented here.

Conclusions reported by Colleagues who have evaluated the Programmed Labour Protocol

1. Yuel V.I et al LUDHIANA: Optimizing labour protocol or “Programmed Labour” leads to shorter labours, analgesia is quite effective and side effects of drugs are minimal and safe for the fetus. Labour is cherished with pleasure and childbirth becomes a joyous event for the mother. Clinicians in a private set up can safely use it.
2. Daftary S.N et al MUMBAI: Programmed Labour protocol provides substantial relief with shortening of duration of labour, lowered need for operative intervention, satisfactory obstetric outcome for both mother and fetus. It can be practiced widely and is recommended for use in low resource settings
3. Chauhan R et al. JABALPUR: Programmed Labour provides satisfactory pain relief, shorter labours with satisfactory maternal and fetal outcome.
4. Jyoti M. et al. AJMER: Programmed Labour protocol provides adequate labour analgesia, augments the process of labour, and significantly reduces the blood loss in the third stage, without adversely affecting the fetus
5. Gupta K et al. Jaipur: The rate of cervical dilation was faster, duration of labour shorter, Pain relief was satisfactory and Maternal and fetal outcome satisfactory in patients managed by the programmed labour protocol had satisfactory outcome.

6. Daftary S.N et al: Mumbai: Pain relief spells a humane approach to delivery. Experience has shown that relief from pain allays fear and anxiety, ensures sleep and promotes better cooperation. It ensures a better environment for a better obstetric outcome, ensures better placental circulation, curbs unnecessary muscular activity and prevents maternal exhaustion, thereby reducing the need for obstetric intervention for maternal distress.
7. Konin S et al GULBARGA: Programmed Labour protocol effectively reduces the duration of labour, improves maternal and fetal outcome, reduces significantly the pain in labour. Reduces the average blood loss in the third stage of labour and reduce for both mother s the nee for operative delivery – both caesarean section and vaginal operative deliveries and its inherent complications.
8. K.N.Madhavi et al GUNTUR: Programming Labour is an easy and effective way to achieve labour analgesia, shortens the duration of all stages of labour, without any adverse effects on maternal and neonatal outcome. Analgesia is quite effective, and the side-effects are minor and safe for the fetus as well. The ease of administration, the need for minimal patient monitoring with systemic analgesia made programmed labour protocol highly acceptable.
9. Meena J et al. AJMER: Programmed Labour protocol provides effective labour analgesia, augments the process of labour, and significantly reduces third stage loss without adversely affecting the fetus.
10. Shaikh A.F. et al: (MUMBAI & SURENDRANAGAR): Programmed Labour leads to shorter duration of labour, satisfactory pain relief, lowered incidence of obstetric intervention and satisfactory maternal and fetal outcome
11. Mir F and Azad R: SRINAGAR, KASHMIR): Programming labour is a good, effective and easy way to achieve labour analgesia. Shortens all the stages of labour, without any adverse effect on the maternal and neonatal outcome. The need for obstetric intervention was also reduced.
12. M. Ajeetha Banu THANJAVUR: Programmed Labour protocol provides adequate labour analgesia, augments the process of labour, and thereby shortens its duration, reduces blood loss during labour without maternal or fetal adverse effects

13. Dikshit S et al MUMBAI: Programmed labour is a safe protocol for use, it shortens the duration of labour, provides satisfactory pain relief and assures safe obstetric outcome of labour.
14. Divakar Hema and Patil Anupama BENGALURU: Dr. Hema Divakar had been a part of the FOGSI group (Vice President), and Dr. Uday Thanawala (Secretary to the president) during the presidency year of Dr. Shyam Desai – had organized and participated in several workshops to demonstrate PROGRAMMED LABOUR to FOGSIANS in various parts of our country.
15. Manoj A et al PUDUCHERRY: Programmed labour protocol provides for effective analgesia, as a result of which the overall duration of labour reduces, without increasing maternal adverse effects
16. Sarkar P et al KOLKATA: A low-dose ketamine infusion (A loading dose of 0.2mg/kg delivered over 30 mins., followed by an infusion of 0.2mg/kg/h could provide acceptable analgesia during labour and delivery.
17. Hussein AE et al KUWAIT: Low dose ketamine infusion as an analgesic for vaginal delivery found to be safe and effective.
18. Jagatia K et al AHMEDABAD: The low dose intravenous ketamine is most suitable for labour analgesia because of its safety, it does not cause any significant adverse maternal or fetal complications, it does not prolong labour, there is no rise in rates of caesarean section / instrumental assisted vaginal births. Since ketamine alleviates pain – it ensures maternal cooperation. It is easy to monitor, easy to administer without the help of an expert. It is cost effective.
19. Rawat R et al AGRA: Patients managed on programmed labour protocol revealed that the duration of all stages of labour were reduced, average blood loss was reduced in the study group, there were no maternal or fetal complications, 55% of the patients experienced excellent pain relief.
19. Alam A et al DIBRUGARH (ASSAM): Programmed labour is effective, simple to use, reduces the duration of labour, there is reduction of blood loss, better APGAR scores, reduced need for obstetric interventions and the extent of pain relief provided is satisfactory.
20. Shivmurthy H et al DAVANGERE (Karnataka): Programmed Labour is

effective, provides satisfactory pain relief, the duration of labour was shortened, the need for caesarean section was reduced, the maternal and fetal outcomes were satisfactory

21. Alam A et al DIBRUGARH – ASSAM: Use of the PROGRAMMED LABOUR protocol amongst low risk primigravidae in active phase of labour has reduced the mean duration of labour, lesser blood loss during labour, improvement of APGAR Scores in the new borns, and better pain relief in labour. The need to resort to Cesarean or assisted vaginal birth was much reduced.

22. Shivmurthy H.M. et al. DAVENGERE: Programmed labour can be used in any age group, it is effective in active labour, patients with moderate to severe pain had better pain relief, it helped to shorten the duration of labour. There was reduction in instrumental assisted deliveries and satisfactory obstetric outcome

24. Veerendrakumar et al BELLARY: Programmed Labour promotes cervical dilatation, shortens the duration of labour, provides excellent pain relief with good maternal and perinatal outcome. It can be used by all clinicians with high benefit and safety margin²⁵. Rawat R et al. AGRA: Programmed Labour protocol was evaluated on a rural population. The study concluded that the duration of all stages of labour were reduced, there were no maternal or fetal complications, 55% of the women experienced excellent pain relief

25. Dr.C.Savithri (Guntur 2007) delivered the Dr.N.Subhadhra Devi memorial oration. Her message was loud and clear : " Save the woman from the pain of labour by planning and programming the labour.

26. Dr Paulami Guha – Eden Hospital Kolkatta – 2007 said that “programmed labour protocol is safe, convenient and acceptable and easy to use

27. Dr.Sudhir R.Shah et al (Rajkot) 2014 opined thus – Dr.Shirish Daftary from India is one of the pioneers to bring the concept of “Active Management of Labour” to India. To him goes the credit of creating “The Indian NOMOGRAM”. Programmed Labour provides pain relief during labour and thereby reduces stress – this results in shorter labours, and improved Obstetric Outcome of labour.

28. Dr.Ajit Joshi (Pune 2007) With the use of “Programmed labour” protocol, marked labour analgesia accomplished. There is marked

reduction in the total duration of labour. Marked reduction in the rate of Cesarean Sections, minimum side effects on mother, and no adverse effects on APGAR Scores of the fetus. Hence, this is a simple and inexpensive method which can be easily adopted in daily practice.

29. Kumud Gupta et Al. (Gwalior 2015) reported their experience on “Programmed Labour”. Results: Significant reduction in duration of active phase of labor and 43 (86%) cases had pain relief. Out of them 20 (40%) cases experienced excellent pain relief while in controls, only 22% had pain relief. Conclusions: Labour analgesia ensures pain relief. The protocol is easy to follow, simple and effective method for painless delivery.

30. Konin S et al (Gulbarga) 2014 stated that programmed labour protocol in primigravida has got definite role improving the obstetric outcome. From the present study, it can be concluded that: Programmed labour protocol effectively reduces the duration of labour. The protocol significantly reduces the pain during the labour. Improves the maternal and neonatal outcome.

31. Manish Pandya (Surendranagar 2016) Reported agreement with above views

Conclusion

Programmed Labour Protocol is an indigenously developed and tested protocol for pain relief during labor, especially in low resource settings. It can be practiced widely – even in a rural community. It does not require presence of an anaesthesiologist, specialized training or equipment – it can be used by the Obstetrician. It can be used even where EA is not available or possible (spinal deformity, thrombocytopenia, local infection etc). Clinical monitoring is the key to its success. The PARTOGRAM provides early warning to detect dystocic labour which gives time to transfer the case / call for more assistance. The patient gets considerable relief from pain. It ensures patient cooperation and satisfaction. The incidence of operative interference drops significantly.

Satisfactory maternal and foetal outcomes are reported

So, in Indian setting, Programmed Labour provides a viable practical method of pain relief in Labour and should be considered as an important viable option for pain relief in labour.

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