



# Effectiveness of Transcutaneous Electrical Nerve Stimulation On The Labour Pain Management

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## ABSTRACT

*Pain in labour is a normal physiological reaction. The experience of pain during labour is a complex and multifaceted individual response to stimuli generated during child birth. In particular, one psychological factor- previous experience of pain- was found to be strongly associated with perceived levels of pain.*

*TENS (Transcutaneous Electrical Nerve Stimulation) was introduced into maternity care in Scandinavia in 1970s. TENS was originally developed as a way of controlling pain through "gate control theory" in 1965. Interest in the use of electricity to relieve pain was reawakened by Melzack and Wall. TENS in labour has become increasingly popular as it is simple to use and is non-invasive.*

*Key words: Labour Pain, primi mothers. TENS (Transcutaneous Electrical Nerve Stimulation).*

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## 1. INTRODUCTION

Labour is often thought as one of the most painful events in human experience. It ranges from women to women and pregnancy to pregnancy. The intensity is not always the determining factor that drives women to seek pain management. **(Larissa Hirsch, et al., 2008).**

A wide range of pain relief measures as well as pharmacological interventions are presently available to women in labour. Relaxation techniques, positioning, hydrotherapy, hot/cold therapy, electrical stimulation and acupressure are some self-help comfort measures. **(Nichols, et al., 2000).**

A recent trial of TENS, including 104 women, found that the use of pain medication in the TENS users are less when compared with the control group. The majority of TENS users considered it as effective means of pain relief. **(Rosler.B., 2001).**

Hence the researcher felt a need to study the effectiveness of TENS (Transcutaneous Electrical Nerve Stimulation) in relieving pain among primi mothers.

## **2. STATEMENT OF THE PROBLEM**

A Study To Assess The Effectiveness Of Transcutaneous Electrical Nerve Stimulation In Labour Pain Management During First Stage Of Labour Among Primi gravida women At Coimbatore.

### **2.1 OBJECTIVES**

1. To assess the intensity of pain in Primi gravida women during first stage of labour.
2. To provide TENS Primi gravida women during first stage of labour
3. To assess the effectiveness of TENS in pain management during first stage of labour among Primi gravida women

### **2.2 ASSUMPTION**

- Primi gravida women experience painful contraction during labour
- The intensity of labour experience varies from women to women
- Use of pain medication has an impact on the fetus and the mother.

### **2.3 HYPOTHESIS**

There is a significant difference in pain intensity among Primi gravida women who receive TENS (Transcutaneous Electrical Nerve Stimulation) during the first stage of labour.

## **3. LITERATURE REVIEW**

A study was done to assess the effectiveness of TENS on acupuncture points during the first stage of labour. Healthy full term mothers in active first stage of labour were assigned to TENS on four acupuncture points. Pain was assessed using Visual Analogue Scale. TENS group experienced pain score reduction ( $P < 0.001$ ). (**Chao A S et al. , 2007**)

A study was done to assess the efficacy of TENS on low back pain during first stage of labour. The study included 24 induced labours. In the TENS group, conventional methods were used when needed whereas control group were administered only conventional methods. In most of the parturient, moderate to minimal pain relief was noted. (**Bundsen.P. et al. , 2005**)

46 nulliparous women and 58 multi were given TENS for pain relief during first stage in a study to examine the efficacy of TENS for pain relief. The majority of subjects (72% nulliparas and 69% multiparas) considered TENS was effective for pain relief during labour. TENS significantly reduced the duration of first stage of labour  $P < 0.001$ . (**Kaplan.B.et al. , 2003**)



#### 4. METHODOLOGY

Quasi experimental design was used for this study. The tools used were modified WHO partograph, numeric pain intensity scale and a self designed opinionnaire. The study was conducted in KG hospital, Coimbatore. The sample size was 20 and convenience sampling technique was adopted in this study. All abnormal deliveries were excluded in this study.

#### 5. RESULTS AND CONCLUSION

On analysis, it was found that pre test score among primi was 4(20%) of moderate pain and 16(80%) had severe pain whereas post test group had 3(15%) had mild pain and 17(85%) had moderate pain and none had severe pain.

**Table-1 Distribution of pain score of Primi gravida women during first stage of labour**

S.No	Level Of Pain	Pain Score Of Primi gravida women			
		Pre-Test		Post Test	
		NO	%	NO	%
1.	MILD	-	-	3	15
2.	MODERATE	4	20	17	85
3.	SEVERE	16	80	-	-

It was also noted that 't' value for this group (8.73) was greater than the tabulated value (2.093) indicating that hypothesis is accepted and there is a significant difference in the intensity of pain after adm

Table-2 Comparison of pretest and post test score of Primi gravida women during First stage of labour.

S.No.	Primi gravida women	Mean	Standard Deviation	Calculated Value Of 't'	Tabulated 't' Value @5% Level Of Significance
1.	Pre test score	7.9	1.41	8.73	2.093
2.	Post test score	6.65	1.42		

The study done on 20 Primi gravida women, within a period of four weeks, helped the researcher to conclude that there was huge difference in the pain relief during the first stage of labour with the use of TENS(Transcutaneous Electrical Nerve Stimulation) . It is recommended that this can be further researched as a longitudinal study for better results.

## CONCLUSION

The study concluded that TENS is an effective non-pharmacological, non-invasive adjuvant pain relief modality for use in labor and delivery. TENS application reduced the duration of the first stage of labor and the amount of analgesic drug administered. There were no adverse effects on mothers or newborns.

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