

Effect of LI4 Acupressure on Perception of Labour Pain

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Abstract

Introduction: Acupressure is the traditional Chinese medicine, which has proved its efficiency all over the world. This study aims at assessing the effect of LI4 Acupressure on perception of labour pain in the parturient women. The duration of uterine contraction was also compared between groups. *Methods:* Experimental approach with a pretest-posttest control group design is used for the study. The study was conducted in parturient women meeting inclusion criteria randomized in to experimental (n=20) and control (n=20). Experimental group received LI4 acupressure in active phase of labour for 20 minutes during uterine contraction and women in control group received routine care. Labour pain was measured using visual analogue scale before the intervention, then at 30th minute and at 60th minute after the intervention. Corresponding with each observation, uterine contraction was monitored for 10 minutes. *Results:* Pain scores between the groups before the intervention was found to have no significant difference. Pain score between the groups at 30 minutes and 60 minutes after the intervention was significantly different at 0.001 level, with no significant difference in uterine contraction. Women in acupressure group reported to have a positive experience with acupressure. *Conclusion:* LI4 acupressure in active phase of labour was effective in reducing perception of pain during labour, with no such adverse effect on mother and baby. So it can be considered as a cost effective nursing intervention for promoting comfort during labour.

Keywords: Acupressure; LI4 Acupressure; Labour Pain.

Introduction

Childbirth, while primarily a joyful event, also exposes the mother to one of the severe forms of pain. Perception of pain is highly unique and differs from one individual to another, though the

intensity of pain stimuli is same. Managing the pain during labour or helping the mothers to adapt with the pain makes it a pleasurable experience and this remains an important role of nurse midwives. Various forms of pain management methods such as pharmacological and non

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pharmacological measures are available, among which pharmacological measures are widely used in most of the countries. But considering the part of cost effectiveness and non-invasiveness, non pharmacological measures are becoming popular nowadays in developed countries. One among the non pharmacological measure is acupressure. Acupressure is the form of touch therapy, where specific acupoints are stimulated by finger pressure to relieve variety of symptoms and pain. Acupressure is based on theory of Yin and Yang, where Yin is associated with cold, wet or female and Yang is associated with hot, dry or male. These two forces always interact within the Human body in harmony, but on the other side its imbalance can cause diseases. "Chi" is stated as the fundamental unit of life energy in Chinese medicine and it travels throughout the body channels, which is known as meridians. There are 12 meridians in the body, which transmit energy to 12 major organs of the body.

Among the various non pharmacological measures like acupressure, breathing technique, relaxation and massage applied, acupressure and massage are found more effective in primigravida⁸. These complementary and alternative methods have been reported as an effective method to reduce pain perception during labour as they emphasize the individual personality, and the interaction between mind, body and environment. Obstetrical guidelines 4: Pain management during labour provided by British Columbia Perinatal Health programme⁶ focussed on offering routine non pharmacological comfort measure and relaxation technique to the women in labour.

Acupressure has proved to be effective as a preventive and curative method during pregnancy, labour, puerperium and post operative period. The most important point is LI4 point which is known as 'common analgesic point', evident in reducing any forms of pain. This study aims at assessing the effect of LI4 Acupressure on perception of labour pain in the parturient women.

Materials and Methods

An experimental approach with a pretest-posttest control group design was used for the study. The study was conducted in labour room of tertiary care hospital, Kochi. Total of 40 eligible parturient women in first stage of labour wereselected, and were randomized in to experimental group (20) and control group (20) by lottery method. The inclusion criteria were parturient women admitted in labour

room of tertiary care hospital, Kochi with cervical dilatation of 3-5 cm, with or above 37 weeks of gestation and aged 20-35 years. Parturient women with detected fetal and maternal abnormalities; women posted for elective cesarean section; women administered with pain medication within last two hours of selection and women administered with Epidural analgesia were excluded from the study.

The tools used for the study were:

1. Semi Structured Interview Schedule to collect the background data.
2. Tool to monitor the pain score and the uterine contraction of parturient women.
3. Visual analogue scale to assess level of pain of parturient women: It is a 100 mm scale in which the point on extreme left indicates no pain and on right indicates severe pain. Categorized as 0-3 (Mild pain), 4-7 (Moderate pain), 8-10 (Sever pain).
4. Rating scale to assess the experience with acupressure: This tool is developed by the investigator to find out how the women perceives and appreciates the experience of acupressure during labour, which is collected within 24 hours after labour. It is 3 point rating scale with five items. The total score is 15 and it is interpreted as 5-9 (negative experience and 10-15(positive experience).

The tool was validated from seven experts - two gynaecologist, four nursing faculty and two acupressure therapist. The tool was found reliable and the reliability coefficient as 1.

Description of intervention

Acupressure was given on LI4 point. LI4 is located on the highest spot of the muscle when the thumb and index fingers are brought close together. Locate the point between the web of the first and second finger. The intervention was given on this point by first identifying the point, giving a firm pressure for 20 minutes. The movement was followed as rotation of seven times clockwise and seven times anticlockwise with a pause in between for two seconds. Then release pressure for two seconds and repeat it till the end of the contraction, till 20 minutes. This is done by the investigator after attending a training course of acupressure.

After obtaining administrative permission and ethical clearance pilot study was conducted in six samples-three in experimental and three in control. The study was found feasible and amenable to statistical analysis.

Then the Study was conducted for the 40 women who met the sampling criteria. For randomization, 40 chits were put in to bowl, 20 experimental and 20 control. At the time women who meets the inclusion criteria, gets admitted to labour room, a chit is taken from the bowl and women is grouped accordingly to the chit obtained. After obtaining the client, a detailed explanation of the study is given and the informed consent is taken. Uterine contraction for 10 minutes was assessed, followed by monitoring the level of pain using visual analogue scale. Experimental group (n=20) was provided acupressure at the LI4 point for 20 minutes, along with routine care. The movement was followed as rotation of seven times clockwise and seven times anticlockwise with a pause in between for two seconds. Then release pressure for two seconds and repeat it till the end of the contraction, till 20 minutes. Control group (n=20) was supported by the presence of investigator throughout the observation time. Again the level of pain was assessed after 30th and 60th minute after

1st observation (pretest), followed by monitoring of uterine contraction for ten minutes at 30th and 60th minute. After 12 hours and within 24 hours after delivery, Participants were followed up to assess the experience of women with acupressure using a 3 point rating scale.

Results

Section 1: Background characteristics

The sample consisted of 40 parturient women randomized in to experimental group (n=20) and control group (n=20). The two groups were homogenous with regard to personal, clinical and labour related characteristics. Among the total participants, 10(50%) from each group belong to age group of 25–29 years and 13(65%) in each group had a sedentary nature of work. Majority of participants 10(50%) in experimental group had secondary level of education and 10(50%) participants in control group had primary level of education. (Table 1)

Table 1: Distribution of samples based on personal, clinical and labour related data of parturient women

Sl. No.	Variables	Experimental group (n = 20)		Control group (n = 20)		χ^2 value	df
		F	%	F	%		
1.	Age						
	20–24	9	45	5	25		
	25–29	10	50	10	50	3.81 ^{ns}	2
	30–35	1	5	5	25		
2.	Education						
	Primary	9	45	10	50		
	Secondary/Higher Secondary	10	50	8	40	0.61 ^{ns}	4
	Graduate/Others	1	5	2	10		
3.	Nature of work						
	Moderate	7	35	7	35		
	Sedentary	13	65	13	65	0.00 ^{ns}	1
<i>Clinical data</i>							
4.	Pregnancy planned						
	Yes	20	100	20	100		
5.	Order of pregnancy						
	First	17	85	14	70		
	Second	3	15	6	30	1.29 ^{ns}	1
6.	Information regarding pain management techniques						
	Yes	6	30	4	20	0.53 ^{ns}	1
<i>Labour related data</i>							
7.	IV fluids on flow						
	R _L on flow	6	30	8	40	0.44 ^{ns}	1
8.	Oxytocin infusion						
	Yes	3	15	3	15	0.00 ^{ns}	1

Section 2: Pain score between experimental and control group

The pain score between the groups was found to have no significant difference at the pretest level, before the intervention, but after the intervention pain score is found to have significant difference at 0.001 level between the groups. Experimental group experienced less pain than the control group. (Table 2).

Section 3: Uterine contraction between experimental and control group

Regarding the uterine contraction, there was no significant difference between the groups before and after the intervention. Hence acupressure is

proved to have no significant effect on uterine contraction and is found to increase in both the groups. (Table 3).

Section 4: Description of parturient women's experience with acupressure during labour

All the women in acupressure group reported to have a positive experience with acupressure. All mothers were comfortable with finger pressure applied during acupressure, 93.3% of them was confident to receive acupressure and will suggest others to use acupressure during labour. Acupressure is safe and non-invasive was rated by 91.11% and 95% of them felt pain relief through its application (Fig. 1).

Table 2: Comparison of mean pain scores between experimental and control

	Experimental (n=20)		Control (n=20)		t value
	Mean	SD	Mean	SD	
Pre-test	7.37	1.14	7.89	0.63	1.79 ^{ns}
Post-test1	6.69	1.06	8.12	0.64	5.19 ^{***}
Post-test 2	6.63	1.02	8.34	0.75	6.05 ^{***}

Table 3: Comparison of duration of uterine contraction between experimental

	Experimental (n=20)		Control (n=20)		t value
	Mean	SD	Mean	SD	
Pre-test	30.39	4.79	30.84	5.61	0.275 ^{ns}
Post-test1	32.7	4.62	32.86	5.35	0.10 ^{ns}
Post-test 2	34.53	4.53	34.75	4.80	1.55 ^{ns}

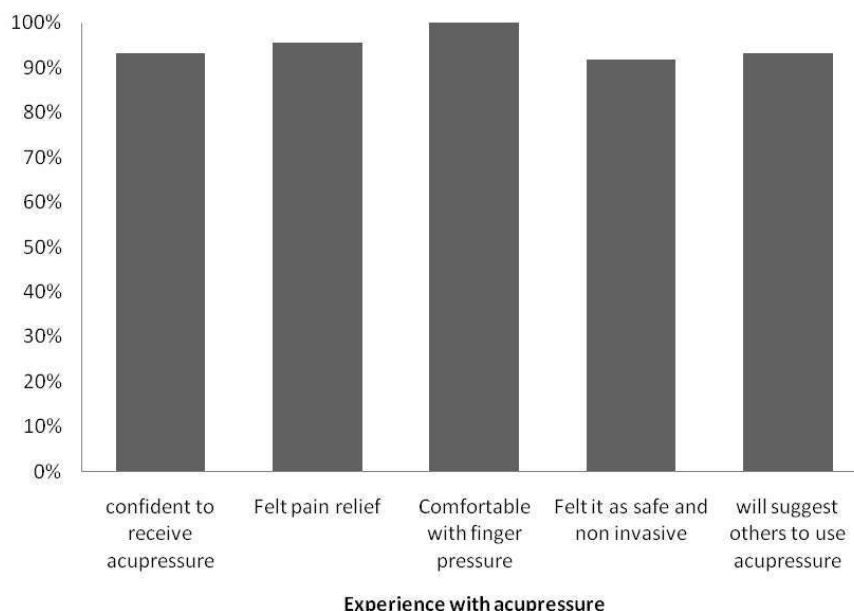


Fig. 1: Distribution of variables indicating experience with acupressure

Discussion

This study examined the effect of LI4 acupressure on labour pain applied on first stage of labour for 20 minutes at each uterine contraction. The result showed that acupressure is effective in reducing pain perception and thus experimental group experienced less pain than the control group after the intervention. The effect of LI4 acupressure lasted till 60th minute of observation. Study conducted by Hamidzadeh A, Shahpourian F, Orak RJ, Montazeri AS, Khosravistated that after providing LI4 acupressure, experimental group experienced less pain compared to control group till 120 minutes of observation at 0.001 level.

Published study on acupressure on labour pain has used various points for treating it. Thus a study was conducted by Salehian T et al. to compare the effect of Hoku Point (LI4) acupressure and San-Yin-Jiao (SP6) acupressure on pain intensity in primiparous women during the active phase of labor at various cervical dilatation. Results showed a reduction of pain perception in acupressure group, by showing less pain severity at each post intervention scores during active phase of labour at 0.001 level.

Present study finds that uterine contraction have no significant difference in both group, though it was found to increase in both the groups. Chung UL, Hung LC, Kuo SC and Huang CI showed a consistent findings with the present study. The purpose of the study was to determine the effect of LI4 and BL67 acupressure on labour pain and uterine contractions during first stage of labour. Results found that acupressure is effective in reducing labour pain but with no significant effect on uterine contraction.

All the women had a positive experience with acupressure. A study was conducted by Waters LB and Raisler J to investigate the use of ice massage on LI4 point to reduce labour pain during contractions. The post-test 1 was conducted after the intervention, which showed reduction in pain intensity to ice massage group and post-test 2 conducted after the delivery, which showed that the average score of the women dropped from score of 3 which is denoted as distressing to score of 2 which is denoted as discomforting. Thus women's were satisfied with the intervention given.

Conclusion

The findings of the study shows that acupressure is effective in reducing labour pain as evidenced by

reduction in the pain score in experimental group, with no difference in control group. It was also found that acupressure has no effect on uterine contraction as both group had an increase in uterine contraction with no significant difference between the groups. Thus acupressure is one of the effective, non invasive and safe method to reduce labour pain and thus measures must be put forward to bring it in to practice.

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