



EFFECTIVENESS OF SHIATSU THERAPY ON LABOUR PAINS AND COPING AMONG PARTURIENT MOTHERS DURING ACTIVE PHASE OF LABOUR

Nursing

Ms. Prajakta Shetasandi

M. Sc Nursing, Symbiosis College of Nursing, Symbiosis International (Deemed University), Pune.

Dr. Seeta Devi*

Associate Professor, Symbiosis College of Nursing, Symbiosis International (Deemed University), Pune. *Corresponding Author

ABSTRACT

Background: Shiatsu therapy is one of the non-pharmacological alternative therapies that helps to manage labour pains. It operates on the "Qi" principle, which is vital life force energy that flows in our body through certain meridian points via manipulation techniques. **Aim:** The goal of this study was to compare the amount of labour pain and coping mechanisms in parturient mothers in the active phase of labour in control and experimental groups. **Methods:** In a group of 60 women who are in active labour, a quasi-experimental study design was carried out. The purposive sampling strategy was used to select these samples. Women with high-risk pregnancy were excluded from this study. Patients were assigned into two groups: experimental or control. Shiatsu therapy was administered to the experimental group of women for 10 minutes and repeated every 2 hours starting at 4cm of cervical dilatation. **Results:** The mean pain levels in the control and experimental groups were 1.200, 1.366, and 1.600, respectively, with SD values of 0.761 for 4cm, 0.556, and 1 individually, and t-test values of 8.635, 13.462, and 8.733. Coping mean values in the control and experimental groups were 155 and 178, respectively, with t-values of 4.573 and 29 degrees of freedom. **Conclusions:** Shiatsu massage can assist parturient moms manage with childbirth pain better, see it as less acute, and be extremely satisfied with the treatment. It had no negative side effects.

KEYWORDS

Shiatsu Therapy; Labour Pain; Parturient Mother; Pain Coping Strategies.

INTRODUCTION

Every woman in the labour process experiences pain and discomfort. Labour pain is a natural, uncomfortable, and painful occurrence. A woman experiences contractions during labor that help the delivery canal expand and efface. Acupressure, acupuncture, and Shiatsu treatment are among the supplemental alternative therapies that can be used to manage labour pain; these therapies function by influencing certain meridians. Various meridian points can be activated during labour to help with pain alleviation and the progression of the labour process.

Hegu (L14); this point, located on the back of hand between the thumb and index finger, can be triggered to alleviate pain, induce contraction, and reduce anxiety.¹ Sanyinjiao (SP6); this point, located four finger width above the ankle on the inside of the thigh, can stimulate contractions and ease discomfort.² BL32 (Ciliao); found near the second sacral foramen in the lower back, about two finger width away from the spine.³ Figure 1 and 2 illustrate BL32 point which is related to the reproductive system in Traditional Chinese Medicine (TCM) and is widely used to improve circulation and relaxation in the pelvic region. Stimulating this area during labour can stimulate contractions, relieve discomfort, and enhances the baby's descent. This complementary alternative therapy can effectively be used to manage the labour pains and advance the descent of the presenting part of the foetus.

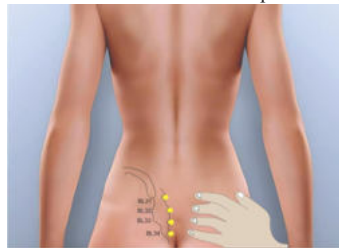


Figure 1

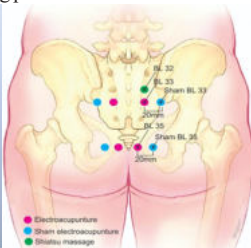


Figure 2

Shiatsu is a Japanese therapy developed by Tokujiro Namikoshi in the 1920s. It is founded on the "Qi" principle, according to which vital life force energy travels through certain body meridian points. The manipulation of these meridian points is a part of Shiatsu therapy.⁴ At its foundation, Shiatsu is a basic practice of massaging the body. It is based on yin/yang, meridians, elements, and Eastern Zen traditions. The technique is intended to relax ligaments and muscles of the body; thereby, it alleviates physical stress and generates relaxation. It also focuses on meridians, energy conduits that help with emotional, psychological, and spiritual well-being. Shiatsu can be used in conjunction with acupuncture; instead of using needles, the

practitioner regulates the flow of vital force in the meridians to enhance well-being, physical health, and prevention of sickness.⁵ Thus, in the current study, researchers sought to comprehend better the effect of BL32 point (Shiatsu) massage in managing labour pains in parturient women.

REVIEW OF LITERATURE

Batool et al. (November 30, 2014). conducted an experimental investigation to determine the efficacy of Shiatsu technique in post-term pregnant women to induce the labour. In this study, researchers have administered pressure in three meridian points include, GB21, L14, and SP6. Among the experimental group, approximately 56.9% of women initiated the labour spontaneously. This study has concluded that Shiatsu therapy can also be used as an alternate therapy for inducing labour.⁶ Ingram et al. (19 May 2005.) administered Shiatsu therapy to 66 parturient women. The type of birth, need for medical or surgical induction, length of labour, and use of analgesia are the parameters deployed to assess the outcome of labour. The experimental group exhibited significant results in spontaneous labour initiation.⁷ In another study, Kobayashi, D. et al. (19 May 2019) showed that Shiatsu is commonly used to treat various general medical concerns such as back discomfort.⁸ Robinson et al. (07 October 2011). Carried out a systematic review and compared the effectiveness of acupressure and Shiatsu on labour pains. Though several studies reported that Shiatsu therapy could effectively manage labour discomfort, this study suggested conducting more studies to prove the Shiatsu therapy's effectiveness in enhancing the quality of life in labour.⁹ As a result, researchers in this study were interested in using Shiatsu therapy to evaluate labour pain among parturient women. Researchers also advocated examining the coping methods of women in childbirth who had undergone Shiatsu massage.

METHODOLOGY

Study Design

Quasi-experimental study design was carried out with the quantitative evaluative approach. The execution of the research design as followed below;

Non-randomization	Experimental group	Pre-test Assessed by- VAS, and coping scales	Intervention- Administered Shiatsu Massage Therapy by a trained Midwife Duration – 10 minutes Frequency- at 4cms, 6cms and 8cms dilatation of the cervix	Post-test Assessed by- VAS, coping scales and Foeto-maternal outcome
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Control group	Pre-test Assessed by- VAS, and coping scales	Administered standard Intra-natal care as per the hospital policy	Post-test Assessed by- VAS, coping scales and Foeto-maternal outcome
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Setting: Selected hospital in Pune, Maharashtra, India.

Study Population And Sampling Strategy:

This study's population consists of parturient women who were in the active phase of labour and had a cervical dilation of 4cm. The purposive sampling technique was used to select study samples (n=60). Before administering Shiatsu therapy, the researcher administered a visual analogue scale (VAS) to measure the intensity of labour pain, followed by Esther John coping response scale to measure the coping strategies. VAS is a 10-point scale that includes depictions of various facial expressive images that assisted researchers in correlating mothers' pain based on facial expressions. Researchers used a five-point Likert scale with 48 items to assess mothers' coping techniques to more thoroughly understand the coping levels of parturient women.

Ethical Clearance

The Institutional Research Committee (Symbiosis College of Nursing) approved the study, and ethical clearance was acquired from the Institutional Ethical Committee (IEC), Symbiosis International (Deemed University) (SIU), Pune. This study additionally received permission from the concerned hospital to conduct the research. The researchers obtained oral and written consent from the participants and relatives and assured them of the study's confidentiality.

Intervention

The researcher conducted vaginal examination for both experimental

and study groups and administered Shiatsu massage to the experimental group at the cervical dilation of 4 cm, 6 cm, and 8 cm for 10 minutes. In contrast, the control group was administered standard intranatal care. Following each intervention, the researcher assessed the pain score, coping strategies, and foeto-maternal parameters, including fetal heart rate, membranes status, amniotic fluid colour, cervical dilation, contractions, blood pressure, mode of delivery and APGAR score, requirement of analgesia, fetal and maternal complications in both groups. The researcher carried out these interventions who had completed Shiatsu massage therapy training and acquired a credential from LeadAcademy; Learn Today and Lead Tomorrow, IPHM.

RESULT

Table 1 Comparison Of Pain Levels In Experimental And Control Group

Variables After intervention	Mean	SD	t-value	P value
Level of Labour Pain at 4CMs in experimental group	2.166	0.556	8.635	0.000
Level of Labour Pain at 4CMs in control group	3.366	0.379		
Level of Labour Pain at 6CMs experimental group	3	0.490	13.462	0.000
Level of Labour Pain at 6CMs in control group	4.366	0.262		
Level of Labour Pain at 8CMs in experimental group	4.033	0.999	8.733	0.000
Level of Labour Pain at 8CMs in control group	5.633	0.319		

Table 1 indicates a significant difference in perception of labour pain level scores between the experimental and control groups following the interventions. The associated p-values were less than 0.05. As a result, the study's null hypothesis was rejected.

Table 2 Relationship Between The Coping Level Factors And The Scores On The Esther John Coping Response Scale N=30,30

Sr no	Parturient response to pain and Coping level	Experimental group			Control group		
		Chi square	d.f.	P value	Chi- square	d.f.	P value
A. Observations During uterine contractions							
1.	Breathing via mouth	2.863	2	0.239	15.664	6	0.016
2.	Able to relax	2.212	3	0.331	15.765	6	0.015
3.	Able to follow the instruction	2.907	4	0.573	9.463	4	0.051
4.	Able to bear the pains	2.683	2	0.262	10.923	4	0.027
5.	Fits are clenched	6.040	6	0.419	10.410	6	0.108
6.	Wrinkling of the forehead	3.214	2	0.200	6.894	2	0.032
7.	Caregiver's hands are holded tightly	0.323	2	0.851	5.780	2	0.056
8.	Holding of the bed rails	2.487	4	0.647	11.839	6	0.066
9.	Abdominal rubbing	0.446	2	0.800	22.533	6	0.001
10.	Grimace	0	0	0	14.553	4	0.006
11.	Weeping loudly	3.971	2	0.137	3.287	4	0.511
12.	Biting teeth	6.882	2	0.032	26.555	8	0.001
13.	Loudly Screams	6.882	2	0.032	17.980	6	0.006
14.	Strikes on the body	0.798	2	0.671	31.142	6	0
15.	Makes a side-to-side head movement	0	0	0	19.714	2	0
16.	Slouches on the bed	0	0	0	15.165	2	0.001
17.	Movement of the feet	1.264	2	0.531	21.966	4	0
18.	Abruptly leaves the labour bed	1.402	2	0.496	30.109	6	0
19.	Exhales while saying "who"	0.323	2	0.851	25.829	4	0
20.	Relaxed during PV examination	9.906	4	0.042	30.255	6	0
B. Observations in mid uterine contractions							
21.	Breathing freely	0.993	2	0.609	31.142	6	0
22.	Happy face	0	0	0	21.686	4	0
23.	Bears tolerantly	1.948	4	0.745	25.615	6	0
24.	Sleep off	0.495	2	0.781	18.331	4	0.001
25.	Able to relax lower abdomen	0.207	2	0.902	20.135	4	0
26.	Able to relaxes jaw	2.456	2	0.293	39.825	6	0
27.	Able to change into comfortable position	1.264	2	0.531	30.012	6	0
28.	Allows to perform examination	2.549	2	0.280	25.263	6	0
29.	Feeling uneasy	0	0	0	24.643	2	0
30.	Screams loudly	0	0	0	30	2	0
31.	She cries continuously	0.142	2	0.932	29.323	4	0
32.	Looks very tired	1.264	2	0.531	26.640	4	0
33.	Holds caregiver's hand	0.954	2	0.621	32.765	4	0
34.	Makes a side-to-side head movement	2.384	2	0.304	40.531	4	0
35.	Rubbing her back while crying	5.757	2	0.056	25.376	4	0

36.	Requests for back rub	3.909	2	0.142	28.004	4	0
C. Manifestations of participation							
37.	Able to follow the instruction of health care provider	9.357	2	0.009	30.287	6	0
38.	Able to drink fluids	0	0	0	30	4	0
39.	Lays with her left side up.	1.883	2	0.390	21.288	4	0
40.	Able to change into comfortable position	1.624	2	0.444	30.645	6	0
41.	Verbalizes the feelings with the health care provider	2.304	2	0.316	26.008	8	0.001
42.	Able to verbalize her needs	2.312	2	0.315	25.278	6	0
43.	Allow to check vital signs and FHS	10.529	2	0.005	27.355	6	0
44.	Allow to perform vaginal examination	1.671	2	0.434	23.985	4	0
45.	Not responding	10.529	2	0.005	27.355	4	0
46.	Demands for analgesics	7.875	4	0.096	24.680	8	0.002
47.	Calls doctor	1.024	2	0.599	34.492	6	0
48.	Required caesarean section	15.067	4	0.005	32.950	6	0

Table 2 discloses that coping strategies among the parturient mothers was higher in the experimental group than in the control group.

Table 3 Assessment Of Foetal Components Before And After Intervention

Group	Cervical Dilation	Foetal component	Before intervention		After intervention	
			Freq	%	Freq	%
Foetal Heart Rate (FHR)						
Experimental group	4 cm	110 – 160 beats/min	30	100	30	100
	6 cm	110 – 160 beats/min	30	100	30	100
	8 cm	110 – 160 beats/min	30	100	30	100
Control group	4 cm	110 – 160 beats/min	30	100	30	100
	6 cm	110 – 160 beats/min	30	100	30	100
	8 cm	110 – 160 beats/min	30	100	30	100
Membrane Rapture						
Experimental group	4 cm	Intact	30	100	30	100
	6 cm	Intact	30	100	30	100
	8 cm	Intact	30	100	30	100
Control group	4 cm	Intact	30	100	30	100
	6 cm	Intact	30	100	30	100
	8 cm	Intact	30	100	30	100

Table 4 Assessment Of Maternal Components Before And After Intervention

Group	Cervical Dilation	Maternal components	Before		After	
			Freq	%	Freq	%
1. DURATION OF CONTRACTIONS						
Experimental group	4 cm	Less than 20 sec.	29	96.66	29	96.66
		Between 20 and 40 sec.	01	3.33	01	3.33
		More than 40 sec.	0	0	0	0%
	6 cm	Less than 20 sec.	0	0	0	0
		Between 20 and 40 sec.	30	100	30	100
		More than 40 sec.	0	0	0	0
	8 cm	Less than 20 sec.	0	0	0	0
		Between 20 and 40 sec.	0	0	0	0
		More than 40 sec.	30	100	30	100
Control group	4 cm	Less than 20 sec.	28	93.33	28	93.33
		Between 20 and 40 sec.	02	6.66	02	6.66
		More than 40 sec.	0	0%	0	0
	6 cm	Less than 20 sec.	10	33.33	10	33.33
		Between 20 and 40 sec.	20	66.66	20	66.66
		More than 40 sec.	0	0	0	0
	8 cm	Less than 20 sec.	0	0	0	0
		Between 20 and 40 sec.	21	70	21	70
		More than 40 sec.	09	30	09	30
2. BLOOD PRESSURE						
Experimental group	4 cm	Less than 110/60	0	0	0	0
		110/60 to 130 / 80	30	100	30	100
		Above 140/ 90	0	0	0	0
	6 cm	Less than 110/60	0	0	0	0
		110/60 to 130 / 80	30	100	30	100
		Above 140/ 90	0	0	0	0
	8 cm	Less than 110/60	0	0	0	0
		110/60 to 130 / 80	30	100	30	100
		Above 140/ 90	0	0	0	0
Control group	4 cm	Less than 110/60	0	0	0	0
		110/60 to 130 / 80	30	100	30	100
		Above 140/ 90	0	0	0	0
	6 cm	Less than 110/60	0	0	0	0
		110/60 to 130 / 80	30	100	30	100
		Above 140/ 90	0	0	0	0
	8 cm	Less than 110/60	0	0	0	0

	110/60 to 130 / 80	30	100	30	100
	Above 140/ 90	0	0	0	0

According to table 3 and 4, all foetal and maternal components were normal during the intervention.

Table 5 Assessment Of Outcome Of Pregnancy Among Experimental And Control Group

Measurement of the Parameters	Experimental group		Control group	
	Freq	%	Freq	%
Mode of delivery				
Normal vaginal delivery	30	100	27	90
LSCS	0	0	03	10
APGAR score of new-born at birth				
<3	0	0%	0	0
4 -6	0	0	0	0
7-10	30	100	30	100
Requirements of analgesics				
Yes	03	10	13	43.33
No	27	90	17	56.66
Colour of amniotic fluid				
Amniotic fluid clear	30	100	30	100
Duration of labour				
<10 hours	05	16.66	0	0
10-12 hours	25	83.33	0	0
13-15 hours	0	0	30	100
Any complication during pregnancy				
A. Yes	0	0	0	0
B. No	30	100	30	100

Table 5 shows that 10% of women in the control group had C-sections, whereas all mothers in the experimental group had vaginal births. Only 10% of women in the experimental group required analgesia, nevertheless 43.33% of mothers in the control group required analgesia.

Table 6 Assessment Of Satisfaction Levels Of Mothers Regarding Shiatsu Therapy Massage

Level of satisfaction	Frequency	Percentage(%)
No satisfaction (score 0)	0	0
Below average (Score 1 to 3)	0	0
Average (Score 4 to 6)	0	0
Above average (Score 7 to 9)	6	20
Highly Satisfied (score 10)	24	80

Table 6 shows that the majority of participants in the experimental group (80%) expressed high satisfaction with the Shiatsu massage during the active stage of labour.

DISCUSSION

This research was conducted to find the efficiency of Shiatsu massage Therapy during the active phase of normal labour. The current study measures labour pain before and after Shiatsu massage therapy at 4cms, 6cms, and 8cms of cervical dilation. A similar scale was used to measure labour pain in the study conducted by Bensitta Lincy et al. the results showed that the majority of women in the control group had moderate pain (86.66%) and severe pain (13.33%), nonetheless in the experimental group also the majority of women (80%) had moderate pain before and after Shiatsu therapy. In this reference study no change was noticed even after Shiatsu therapy¹⁰, whereas in current study pre-intervention 1, pre-intervention 2, and pre-intervention 3, the mean score for labour pain at 4 cm, 6 cm, 8 cm was 5.80, 3.833, and 5.500, respectively. In post-intervention 1, post-intervention 2, and post-intervention 3, the mean score for labour pain at 4 cm, 6 cm, and 8 cm was 2.166, 3, and 4.033 individually. The associated p-values were less than <0.05; thus, in the current study, Shiatsu massage therapy was effective in controlling labour pains. In the experimental group, 43.3% of parturient mothers had moderate coping (113-176), 56.7% had good coping (177-240), 23.3% had poor coping (48-112) before therapy, and 63.3% had moderate coping (113-176), and 13.3% had good coping (177-240) after therapy which shows that coping levels could be increased after Shiatsu therapy. These findings were supported by Bensitta Lincy et al., which shows that in the control group majority of mothers (93.33%) had requested pain relief, whereas, in the experimental group, a few of the mothers (60%) demanded assistance to cope with pain. In this study, there is no significant relationship between gravida, parity, number of prenatal visits, gestational age in weeks, cervical dilation, APGAR score

of infants at delivery, and the labour discomfort following Shiatsu Massage in both the control and experimental groups. In contrast, the current study showed a significant association of obstetrical variables with the foeto-maternal component, i.e., membrane rupture, foetal heart rate, cervical dilation, duration of contractions, blood pressure, mode of delivery, APGAR score, colour of amniotic fluid and duration of labour after shiatsu massage.¹⁰

Teimoori, B., et al; carried out another research study to check the efficiency of Shiatsu therapy in the induction of labour; the results showed that the majority of mothers (61.9%) in the experimental group had not required analgesia; in contrast, 93.5% of mothers from the control group required analgesia.⁶ Similarly, in the current study, most mothers (90%) from the experimental group did not demand analgesia. In the control group, 43.33% of mothers demanded analgesics, proving that mothers with shiatsu therapy require less analgesics. Teimoori B. et al., study resulted that the majority of mothers (82.6%) and (86.8%) from the experimental and control group had undergone normal vaginal deliveries, and reported no significant effect of Shiatsu therapy. However, in the current study, all mothers (100%) from the experimental group and 90% from control group had undergone normal vaginal deliveries, whereas 10% of the mothers from the control group had caesarean section.

Another study conducted by Ingram et al. to find the efficiency of Shiatsu therapy in post-term pregnancy shows mothers from the experimental group were substantially more likely to experience spontaneous labour ($p = 0.038$) compared to mothers who did not receive Shiatsu therapy. Those who had gone through Shiatsu massage had 17% more chances to experience spontaneous delivery than those who had not. Similarly, in the current study, the mean value for the duration of labour in the control group and experiment group was 1.166. This test has a t-value of 16.858 at 29 degrees of freedom. The corresponding p-value was less than 0.05. The average change in the mean is significantly higher in the experimental group than in the control group. Therefore, Shiatsu Massage's efficiency considerably reduces labour length among parturient mothers in the active period of the 1st stage of labor.⁷

Satisfaction level in the experimental group was assessed by using the visual analogous scale for satisfaction, which showed that from the experimental group, the majority of participants were content with Shiatsu Massage during the initial stage of labour, 20% had above average satisfaction, 80% had high satisfaction, none of them had reported no satisfaction towards the intervention of Shiatsu massage.

CONCLUSION

Shiatsu massage participants in the experimental group of pregnant mothers reported reduced pain perception, improved coping skills, and high levels of satisfaction with the treatment. However, the current study suggests conducting more research with a large sample size to prove its efficacy. Midwives may be persuaded to offer Shiatsu Massage as pain relief during labour because it is a non-invasive therapy and safe for both mother and baby.

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