



## EFFECTIVENESS OF BACK MASSAGE ON LABOUR PAIN RELIEF AMONG PRIMIGRAVIDA MOTHERS DURING FIRST STAGE OF LABOUR

### Nursing

**Simpi Bajaj**

Nursing Tutor, Amity College of Nursing, Amity University, Haryana

**Shilpi Sarkar\***

Nursing Tutor, Rufaida College of Nursing, Jamia Hamdard University, New Delhi  
\*Corresponding Author

**Veena Sharma**

Associate Professor, Rufaida College of Nursing, Jamia Hamdard University, New Delhi

### ABSTRACT

Pregnancy is a special event. The labour and birth process is an exciting situation to the women and her family. Labour is associated with unpleasant and distressing universal pain detrimental to the labour process. Back massage as non pharmacological techniques is a way to help women to overcome excessive pain and discomfort by release of endorphins, which have natural pain killing properties. Objectives: (i) To compare the severity of labour pain before and after the back massage among the primigravida mothers in experimental group. (ii) To assess the severity of labour pain among primigravida mothers in control group. (iii) To compare the severity of labour pain among primigravida mothers between experimental and control group Methods: A Quasi-experimental study with Purposive sampling technique is used for the sample. Study was conducted on 60 samples (30 in Experimental group and 30 in Control group). A structured interview schedule, Labour assessment Proforma, Numerical Pain Rating Scale was used for data collection and the data were analyzed using descriptive and inferential statistics. Results: Results revealed that back massage was effective in reducing labour pain in experimental group while in control group; it was found that pain was increasing as no intervention was done. Conclusion: Results confirmed that the back massage is significantly effective in reducing labour pain during first stage of labour.

### KEYWORDS

Primigravida Mothers, First Stage Of Labour, Back Massage

#### Introduction:

Pregnancy is a special event. The labour and birth process is an exciting situation to the women and her family.<sup>1</sup> Pain and its relief for women in labour has been a subject of interest since the dawn of mankind. Labor pain is the most severe pain a woman experienced in her life. The events of labour are divided into four stages. First stage starts from the onset of true labour pain and ends with full dilatation of cervix. It is in other words, the "cervical stage" of labour. Second stage of labour starts with full dilatation of cervix and ends with the expulsion of fetus. Third stage begins after the expulsion of fetus and ends with the expulsion of placenta and membranes. Fourth stage is the stage of observation of at least one hour after the expulsion of placenta and membranes. <sup>2</sup>Getting pain relief is one issue that every expectant mother is interested in. There are numerous pain relief techniques that can be used either with or without pain medications such as firm massage, Acupressure, Light massage, Labouring in tub, Breathing patterns, Aroma therapy, using music etc can a great resource of encouragement, emotional support and physical comfort for the entire family & the mother is in labour.<sup>3</sup> Even though there are many non-pharmacological therapies for relieving labour pain, back massage is assumed to be the most beneficial as compared to other non-pharmacological therapies like hot application, ice massage and acupuncture etc. Massage is found to be an effective therapy to decrease the pain, anxiety, and a depressed mood during labour. In addition, it is reported that massaged mother had significantly shorter labour and decrease pain level. So massage therapy can change the labour into a pleasant experience for the women in labour to reduce the labour pain.<sup>5</sup>

#### Review of Literature:

The review literature for the present study was organized under the following headings:

- 1 Use of non pharmacological methods to reduce labour pain.
- 2 Effectiveness of back massage on reducing labour pain

#### 1. Use of non pharmacological methods to reduce labour pain.

Dengsangluri et al (2015)<sup>6</sup> conducted a study was done which included 48 subjects (24 in experimental group and 24 in control group) were randomly allotted. The experimental group received breathing exercise during contraction at a rate of 45 minutes interval 3 times during the active phase of labour whereas routine care was provided to the subjects in the control group. Pain level was assessed after each contraction with Wong Weber's facial pain scale and behavioural checklist. The result showed that there was a significant difference between the mean pain score of the experimental and control group ( $p < 0.001$  as per t-test). So breathing exercise is effective in decreasing the intensity of labour pain during the first stage of labour.

#### 2. Effectiveness of back massage on reducing labour pain

Khoda Karami et al (2008).<sup>7</sup> conducted a study to evaluate the effect of massage therapy on severity of labour pain. It was a clinical trial on sixty women undergoing delivery in selected hospital of Tehran. Target population was all the women admitted in mahdich and hedayat hospital, Tehran, for delivery. The cases were primiparous women with single fetus in the age range of 20-34 with cervical dilation of four centimetres and less and gestational age of 38-42 weeks. They were divided into massage therapy and control group, randomly. Severity of pain was measured in visual analogue scale (VAS) and questionnaires were filled at the cervical dilation of 4, 8, and 10 centimetres. Massage therapy was done using effleurage method as a type of Swedish massage technique. The data was analyzed using descriptive (frequency distribution, mean and standard deviation) and analytical (independent t – test and chi square) statistical methods. The result demonstrated that the mean of pain severity at the first stage of labour was significantly different between the experiment group and the control group, at the start of active phase ( $p=0.009$ ), end of transitional phase ( $p=0.014$ ) and end of the first stage ( $p=0.01$ ). Also, the duration of the first stage of the labour was different in experiment and control group. The study concluded that massage therapy could be introduced as a new useful method during delivery; regarding its supportive role. It was supposed that the results of the study would introduce massage therapy as a non- pharmacological intervention during delivery to reduce the labour pain and causes a decrease in the number of caesarean section, done to avoid the fear and anxiety, induced by normal vaginal deliveries in young mothers Chang et al (2007)<sup>8</sup> conducted a study on non pharmacologic approaches to relieve labour pain at North America. The study focused on effectiveness of 13 non-pharmacologic methods used to relieve pain and reduce suffering in labour. In the description the study was conducted in 60 women among whom 30 received massage and 30 women were in a control group who received usual care. Massages lasted for 30 minutes in each phase (latent, active and transition). Pain intensity was rated by a nurse observing each woman's manifestation of pain using present behavioural intensity scale. The study revealed that 87 % of the women in the massage group reported that massage was helpful in providing pain relief and psychological support

**Problem definition:** A quasi experimental study to assess the effectiveness of back massage on labour pain relief among primigravida mothers during first stage of labour in a selected Hospital of New Delhi.

**Research approach:** In this study, quasi experimental approach was considered to be most appropriate to accomplish the objectives.

**Research design:** The research design for the study was Quasi-experimental Time series Non-equivalent control group design with multiple institutions of the treatment

**Research setting:** The research study was conducted in Swami Dayanand Hospital, Shahadra, New Delhi

**Sample:** Primigravida mothers admitted in the labour room of Swami Dayanand Hospital, Shahadra

**Sample size:** For the final study 60 primigravida mothers were selected as the sample, 30 in experimental and 30 in control group

**Sampling technique:** In this study, Purposive sampling technique sampling technique was used for selection of samples.

**Criteria for sample selection**

**Inclusion criteria**

1. Primigravida mothers at first stage of labour and who were between 38-42 weeks of gestation
2. Primigravida mothers who were having uterine contractions with 4-10 cm of cervical dilatation.
3. Mothers who were willing to participate in study.
4. Mothers who could read and speak Hindi or English.

**Data collection instruments**

Findings of the study were organized and presented under the following sections:

**SECTION I:** Findings related to demographic characteristics of sample.

**SECTION II:** Findings related to the labour assessment record of primigravida mothers in experimental and control group.

**SECTION III:** Findings related to labour pain.

Comparison between the pre test pain scores of mothers during first stage of labour in the experimental versus control group.

- a. Findings related to mean pre back massage and post back massage labour pain scores of primigravida mothers during first stage of labour in the experimental group.
- b. Findings related to mean pre labour pain and post labour pain scores of primigravida mothers during first stage of labour in the control group.
- c. Findings related to mean pre labour pain and post labour pain scores of primigravida mothers during first stage of labour in the control group.
- d. Comparison between the post back massage labour pain scores of primigravida mothers during first stage of labour in the experimental and control group

**SECTION I: Findings related to demographic characteristics of sample.**

Finding related to demographic characteristics i.e. Age, Educational status, attended classes and heard about the importance of therapies to reduce labour pain in experimental and control group were compared using Fisher test and was found to be not significant.

**SECTION II: Findings related to the labour assessment record of primigravida mothers in experimental and control group.**

Finding related to labour assessment record i.e. presentation, membrane, dilatation, effacement, frequency of contraction, duration of contraction and fetal heart sound in experimental and control group were compared using Fisher test and was found to be not significant.

**SECTION III: Findings related to labour pain.**

**(A) Comparison between the Pre back massage labour pain scores of primigravida mothers during first stage of labour in the experimental and control group.**

**TABLE 3(A)**  
Mean, Standard deviation, SE<sub>MD</sub>, Mean D and 't' value of Pre back massage labour pain scores of primigravida mothers during first stage of labour in the experimental and control group (n1+n2=60)

Groups		Mean	Mean difference	S.E. <sub>MD</sub>	't' Value	P value
Experimental (n1=30)	Pre back massage	7.8	0.33	0.22	*1.47	0.145
Control (n2=30)	Pre back massage	8.1				

**t<sub>(58)</sub>=2.00, p>0.05 level, Non significant at 0.05 level**  
“t” test was computed between the mean pre back massage labour pain scores of primigravida mothers during first stage of labour in the experimental and control group and it was found that both the groups were homogenous with regard to Pre back massage labour pain scores.

**SECTION III**

**(B): Findings related to mean pre back massage and post back massage labour pain scores of primigravida mothers during first stage of labour in the experimental group.**

**TABLE 3 (B) Mean, Standard Deviation, Mean Difference, Standard Error, and 't' value of pre back massage and post back massage labour score of experimental group** (n1 =30)

**t<sub>(29)</sub>=2.04, p<0.05 level \*\*Significant at 0.001level**

GROUP		MEAN	S.D.	MD	S.E. <sub>MD</sub>	't' value	P value
Experimental Group (N1=30)	Pre back massage	8.06	1.20	1.4	0.14	*10.35	0.001**
	Post back massage	6.60	.85				

't' value 10.35 is more than table value of t(29)=2.04 at 0.0001 level of significance by assessing the pain difference before and after the back massage. Therefore mother in first stage of labour is having less perception of pain after back massage as measured by numeric pain intensity scale

**SECTION III**

**©: Findings related to mean pre labour pain and post labour pain scores of primigravida mothers during first stage of labour in the control group.**

**Table 3 © Mean, Standard Deviation, Mean Difference, Standard Error, and't' value of pre labour pain and post labour pain scores of primigravida mothers in control group.** (n2 =30)

**t<sub>(29)</sub>=2.04, p<0.05 level \* Non-Significant at 0.05 level**

GROUP	TEST	MEAN	S.D.	MD	S.E. <sub>MD</sub>	't' value	P value
CONTROL (n2=30)	Pre-labour pain	7.5	.89	1.6	0.25	*6.49	0.457
CONTROL	Post-labour pain	9.1	1.17				

value 6.49 and t<sub>(29)</sub> at 0.0001 level of significance, indicating that pain increased with passage of time. Although no intervention was administered to primigravida mothers in control group, however the difference in pain level was found to be non- significant.

**SECTION III**

**(D): Comparison between the post back massage labour pain scores of primigravida mothers during first stage of labour in the experimental and control group.**

**Table 3 (D) Mean, Standard Deviation, Mean Difference, Standard Error, and't' value of post back massage labour pain score of primigravida mothers in experimental and control group** (N= n1+n2=60)

Groups	Test	Mean	Mean difference	S.E.MD	't' Value	P value
Experimental (n1=30)	Post back massage	6.6	2.5	0.265	*9.6	0.602
Control (n2=30)	Post back massage	9.1				

**t<sub>(58)</sub>=2.00, p>0.05 level, significant at 0.05 level**  
't' value 9.6 is more than the t<sub>(58)</sub> at 0.05 level of significance, it is concluded that back massage was effective in reducing labour pain in primigravida mothers of experimental group.

**Discussion of Findings**

The finding of the present study suggest that the non pharmacological method of pain relief, i.e. back massage was effective in reducing labour pain during first stage of labour in experimental group while in control group, it was found that pain was increasing as no intervention was done.

The similar study done by Tork Zahrani<sup>10</sup> who conducted a study on the effect of massage on intensity of pain during first stage of labour in primiparous women. In this study, 75 primiparous women in 38-42 week of low risk pregnancy were randomly divided in 3 groups. First group received 20 minutes of back massage at the periods of 4-5 cm, 6-7 cm, 8-10 cm, cervical dilation. An emotional support was offered for second group in the same duration of time and the same cervical dilation. Third group just received routine care during labour. Study result demonstrated that intensity of pain was significantly lower in massage group.

### Conclusion

Back massage a non pharmacological method of pain relief was effective in reducing labour pain during first stage of labour.

### REFERENCES

1. Bennet, V.R, & Brown, L., K. Myles Textbook of Midwives 12th ed UK: Churchill Livingstone.2008; 62
2. Jayne K, Lossner J. Introductory maternity and paediatric Nursing. 18th ed. London; Lippincott Williams; 2006: 1120–43.
3. Cignacco E, Hamers JP, Stoffel L, Van Lingen RA, Gessler P. The efficacy of Non-Pharmacological interventions in the management of pain. *Eur J Pain*.2007 Feb; 11(2): 19-52.
4. McCabe P. Complementary Therapies in Nursing and Midwifery.1st ed, Melbourne. Ausmed; 2001:148-51.
5. Patricia Janssen, Farah Shroff, Paula Jaspar. Massage Therapy and Labour Outcome: a randomized Controlled Trail. *Int J Ther Massage Body work*. (2012)Dec; 5(4): 15-20.
6. Dengsangluri, Jyoti A Salunkhe. Effect of Breathing Exercise in Reduction of Pain during First Stage of Labour among Primigravida. *International Journal of Health Sciences and Research* 2015; 5(6): 390-398
7. KhodaKarami N, Safarzadeh A, Fathizadeh N (2008): Effect of massage therapy on severity of pain and outcome of labour in primipara. *Iranian Journal of Nursing and Midwifery Research*, 12 (1): 6-9.
8. Chang et al. Non pharmacological methods of labour pain relief. *Advances Access Publication*.2007; 4(4):409-417.