

# EFFECTIVENESS OF ABDOMINAL EFFLEURAGE VERSUS CIRCULAR HIP MASSAGE ON PAIN DURING FIRST STAGE OF LABOUR AMONG PRIMIGRAVID WOMEN ADMITTED IN LABOUR WARD AT TERTIARY CARE HOSPITAL, PUDUCHERRY

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## ABSTRACT

Child birth is a natural biological process and therefore the pain associated with it is also perceived as normal. The aim of present study was to evaluate the effectiveness of abdominal effleurage versus circular hip massage on pain during first stage of labour among primigravid women. Quantitative research approach and true experimental research design was adopted for the study. A total of 60 primigravid women were selected by simple random sampling technique. The pre and post test level of pain was assessed using Numerical pain rating scale. Data was analyzed by descriptive and inferential statistics. The study finding reveals that the obtained Friedman test value was 87.145 and 86.234 which is highly significant at ( $p < 0.001$ ). The study proves that circular hip massage was effective in reducing pain during first stage of labour among primigravid women.

**Key words:** Abdominal effleurage, circular hip massage, primigravid women, labour pain.

## INTRODUCTION

The pain associated with child birth is perceived as a normal and natural biological process.<sup>1</sup> Labour pain is a universal experience to women, it is highly unpleasant sensation that cannot be shared with others. It is caused by the contracting uterus, pressure by the descending fetus on the cervix. And it is manifest as cramping in the abdomen, groin, thigh and back and mother experiences tired, achy feeling all over the body.<sup>2</sup> Pain experienced by women varies in intensity and severity and also differ from time to time and order of the birth is based on their physical and emotional changes.<sup>3</sup>

Labour pain control is a women - centered approach in which each woman has an impact on how they perceive and express pain during childbirth. The role of nurse midwife is to provide satisfactory care for all childbearing women. The major responsibilities of the midwife is to promote comfort during labour.<sup>4</sup>

Human body bears only up to 45 Del (unit) of pain. During the time of child birth, a women bears up to 57 Del of pain. It is estimated that pain perceived by mothers are very high during delivery i.e about 30-70% of women experience pain to extreme. It is also found that 31.7% of women have experienced back pain along with labour pain.<sup>5</sup>

There are many types of non- pharmacological methods in pain control; among those, homeopathy, music therapy, Transcutaneous electrical nerve stimulation, acupuncture, application of hot and cold are the most common and widely applying techniques. Other methods of comfort measures such as effleurage and hydrotherapy which helps to minimize the uses of anesthesia or analgesia and it also prevents the transmission of pain impulses to the brain.<sup>6</sup>

Among those methods, Massage therapy has probable benefits such as reducing the intensity of pain, promotes relaxation, reduced the duration of labour, decreases stress and anxiety. It an effective therapy on decreasing pain, anxiety, stress and depressed mood during childbirth.<sup>7</sup> It has been widely used during labour, and comprised of deep and superficial stroking. It also helps to block pain impulses from site of pain to the brain and also increases the release of endorphins due to soft tissue relaxation.<sup>8</sup>

Abdominal effleurage is the most important vital technique in massage. During childbirth, a light circular stroke applied to the lower abdomen which aids in relaxation of the abdominal during contractions. On concentrating the coordination of stroking and breathing, it believes by blocking the sensation produced by the contracting uterus.<sup>9</sup>

Circular hip massage is the basic massage techniques which are used during first stage of labour. In this technique upward and downward globular strokes are given in the sacral region by controlled breathing, and also relieve the pain during labour.<sup>10</sup>

Now-a-days most of the non-pharmacological therapies such as massage therapy, manual healing, yoga, heat and cold applications are being used to lessen the pain or distress. Many non- pharmacological therapies are now finding a more significant place in the health care settings. Therefore, the study aimed to evaluate the effect of abdominal effleurage and circular hip massage on pain during first stage of labour among primigravid women.

## STATEMENT OF THE PROBLEM

Effectiveness of Abdominal Effleurage Versus Circular Hip Massage on Pain During First Stage of Labour among Primigravid Women Admitted in Labour Ward at Tertiary Care Hospital, Puducherry.

## OBJECTIVES OF THE STUDY

1. To assess the level of pain during first stage of labour among primigravid women.
2. To evaluate the effectiveness of abdominal effleurage and circular hip massage on pain during first stage of labour among primigravid women.
3. To compare the effectiveness of abdominal effleurage versus circular hip massage on pain during first stage of labour among primigravid women.
4. To find out the association between the level of pain during first stage of labour among primigravid women with selected demographic variables.

## HYPOTHESES

H1: Level of pain during first stage of labour among primigravid women differs before and after abdominal effleurage.

H2: Level of pain during first stage of labour among primigravid women differs before and after circular hip massage.

H3: The effect of abdominal effleurage varies from the effect of circular hip massage on pain among primigravid women.

H4: There is a significant association between the level of pain during first stage of labour with selected demographic variables.

## MATERIALSAND METHODS

Quantitative research approach and true experimental research design (which includes experimental group I and II) was selected for this study. A total number of 60 samples who fulfils the inclusion criteria were selected from labour ward of tertiary care hospital by using simple random technique (lottery method). The proposed study was approved from the Institutional Human Ethical Committee Permission (IHEC) and the concerned authority. The content validity of the tool was assessing by getting opinion from the experts. As per the suggestion, the needed changes were included in the tool. The pilot study was conducted and the tool was considered reliable for this study. The main study was conducted fora period of six weeks. The tool includes two sections, section- A consist of demographic variables and section B consist of standardized tool,

Numerical Pain Rating Scale (score description 0- no pain, 1-3 mild pain, 4-6 moderate pain, 7-9 severe pain 10 worst pain). Informed sign consent was obtained from the subjects. The intervention for Group I (Abdominal Effleurage), when mother had 3 cm cervical dilatation after the assessment of labour pain using Numerical Pain Rating Scale, massage was started. Abdominal effleurage was performed during contraction, which included abdominal circles, side strokes and abdominal strokes for 30 minutes for each time of intervention at an interval of 2 hours for 3 times, 1<sup>st</sup> time of intervention- 30 minutes after first vaginal examination on active phase of 3cm cervical dilatation, 2<sup>nd</sup> time of intervention- 2 hrs after previous intervention of abdominal effleurage, 3<sup>rd</sup> time of intervention- 2 hrs after 2<sup>nd</sup> time of intervention of abdominal effleurage. After each time of intervention, the numerical pain rating scale was used to assess the pain during labour.

Group II (Circular Hip Massage), when mother had 3 cm cervical dilatation, after the assessment of labour pain using Numerical Pain Rating Scale, massage was started. Circular hip massage was done in which upward and downward globular strokes are given on either sides of spine in the sacral region during each contraction for 30 minutes for each time of intervention at an interval of 2 hours for 3 times as same like group I (abdominal effleurage). The data analyses by using SPSS software 16 epidata version 2.2.2.186 for descriptive statistics (mean, median and Standard Deviation) and inferential statistics (Friedman test, Mann-Whitney test).

## RESULTS

**TABLE 1: EFFECTIVENESS OF PRE AND POST TEST MEDIAN LEVEL OF PAIN AMONG PRIMIGRAVID WOMEN IN GROUP I AND II**

Group	Median level of pain						Friedman Test	p value
	Pre 1	Post 1	Pre 2	Post 2	Pre 3	Post 3		
Group I	3	1	6	4	8.5	7	87.145	<0.001
Group II	3	1	6	3.5	8	6	86.234	<0.001

\*\*\* Highly statistically significant at  $p < 0.001$

**Table 1** represents the pre and post test median level of pain in group I and group II. In group I, the pre and post test 1 median value was 3 and 1 respectively. The Pre and post test 2 median value was 6 and 4 respectively and the Pre and post test 3 median value was 8.5 and 7 respectively. In group II, the Pre and post test 1 median value was 3 and 1 respectively. The Pre and post test 2 median value was 6 and 3.5 respectively and the Pre and post test 3 median value was 8 and 6 respectively. The obtained Friedman test value was 87.145 and 86.234. It was highly statistically significant at  $p < 0.001$  level. The result shows that there is variation in the level of pain in group II than group I.

**TABLE 2: COMPARISON OF PRE AND POST TEST MEDIAN LEVEL OF PAIN AMONG PRIMIGRAVID WOMEN IN GROUP I AND II**

TEST	GROUP I			GROUP II			Mann-Whitney Test	p value	
	Mean	Median	SD	Mean	Median	SD			
1	Pre	2.9	3	0.6074	2.867	3	0.6814	464.5	0.815
	Post	1.433	1	0.504	1.467	1	0.5074	435	0.804
2	Pre	5.933	6	0.7849	6.3	6	0.7497	328	0.054
	Post	3.7	4	0.6513	3.467	3.5	0.6814	520	0.252
3	Pre	8.467	8.5	0.5713	8.433	8	0.504	471.5	0.722
	Post	6.733	7	0.8277	5.967	6	0.8899	647.5	0.002

**Table 2** represents the pre and post median level of pain in both group I and group II. In group I, the pre and post test 1 median value was 3 and 1 respectively. The Pre and post test 2 median value was 6 and 4 respectively and the Pre and post test 3 median value was 8.5 and 7 respectively. In group II, the Pre and post test 1 median value was 3 and 1 respectively. The Pre and post test 2 median value was 6 and 3.5 respectively and the Pre and post test 3 median value was 8 and 6 respectively. While comparing pre-test and post-test 3 according to Mann-Whitney test value was 471.5 and 647.5 respectively and p value was 0.722 and 0.002. It indicates that there was a variation in the level of pain in group II than group I. The result finding reveals that circular hip massage was effective in reducing pain during first stage of labour.

## ASSOCIATION BETWEEN THE PRE TEST LEVEL OF PAIN WITH SELECTED DEMOGRAPHIC VARIABLES

The present study shows the association between the pre-test level of pain with selected demographic variables during first stage of labour among primigravid women. By using chi-square it was evidenced that there is no significant association between the level of pain with selected demographic variables like age in years, educational status, religion, occupational status, family income, residential area, type of family and duration of hospitalization among primigravid women at  $p < 0.001$  level.

## DISCUSSION

The present study result reveals to evaluate the effectiveness of abdominal effleurage versus circular hip massage on pain during first stage of labour among primigravid women. The first objective of the present study was to assess the level of pain during first stage of labour among primigravid women it shows that, In pre-test 1, out of 30 samples in group I, 26(86.7%) had mild pain, 4(13.3%) had moderate pain and none of them had severe and worst pain. In group II, 25(83.3%) had mild pain, 5(16.7%) had moderate pain and none of them had severe and worst pain. During Post-test 1, out of 30 samples in group I, 30(100%) had mild pain and none of them had moderate, severe and worst pain. In Group II, 30(100%) had mild pain and none of them had moderate, severe and worst pain. In pre-test 2, out of 30 samples in group I, 22(73.3%) had moderate pain, 8(26.7%) had severe pain and none of them had worst pain. During post-test 2, out of 30 samples in group I, 12(40%) had mild pain, 18(60%) had moderate pain and none of them had severe and worst pain. In group II, 17 (56.7%) had moderate pain, 13 (43.3%) had severe pain and none of them had worst pain. In pre-test 3, out of 30 samples in group I, 30 (100%) had severe pain and none of them had worst pain. In Group II, 30 (100%) had severe pain, and none of them had worst pain. During post-test 3, out of 30 samples in group I, 9(30%) had moderate pain, 21(70%) had severe pain and none of them had worst pain. In Group II, 19(63.3%) had moderate pain, 11(36.7%) had severe pain and none of them had worst pain. The above result was supported to assess the effectiveness of massage therapy on severity of pain and anxiety among parturient mothers during active phase of labour. By Non – probability sampling technique 30 parturient mothers was selected. Pre and post test pain perception was assessed by numerical pain intensity scale. The result shows that the mean pre and post interventional score of pain severity was 82.91 and 22.66 respectively. The ‘t’ value was 24.0039, it significant at  $p < 0.001$  level. The mean and post interventional score of anxiety was 25.53 and 10.48 respectively. The ‘t’ value was 20.3378 it is significant at  $p < 0.001$  level. Hence the study concludes that there was reduction in the labour pain severity and anxiety level.<sup>11</sup>

The second objective was to assess the effectiveness of abdominal effleurage and circular hip massage on pain during first stage of labour among primigravid women. In group I, the pre and post test 1 median value was 3 and 1 respectively. The Pre and post test 2 median value was 6 and 4 respectively and the Pre and post test 3 median value was 8.5 and 7 respectively. In group II, the Pre and post test 1 median value was 3 and 1 respectively. The Pre and post test 2 median value was 6 and 3.5 respectively and the Pre and post test 3 median value was 8 and 6 respectively. The obtained Friedman test value was 87.145 and 86.234. It was highly statistically significant at  $p < 0.001$  level and While comparing pre and post-test 3 according to Mann-Whitney test value was 471.5 and 647.5 respectively and p value was 0.722 and 0.002. The result finding shows that there is a variation in the level of pain in group II than group I. The study finding reveals that circular hip massage was effective in reducing pain during first stage of labour.

The important strength of our study was Cost effectiveness, No side effects, easily understandable and very effective in reducing the pain during labour. Limitations of our study period were limited to 45 days, sample size limited to 60 samples, 30 samples in each group. Our study suggested that this can be

implemented with a large sample for effective outcome, this technique should follow in all areas of nursing practice, and studies can be used to evaluate the knowledge and practice among nurse midwives on alternative and complementary treatment for parturient women. Massage helps to provide support during labour in comparison with other effective measures of nursing intervention.

## CONCLUSION

The study findings are clearly pointed out that abdominal effleurage and circular hip massage are useful in reducing the pain during labour. Further studies may be useful by using many non-pharmacological measures and along with that different type of massages such as application of abdominal effleurage and circular hip massage are used as an alternative management strategy in reducing the pain during labour which can be followed in health care settings.

From this study, abdominal effleurage and circular hip massage should be followed by labour ward nurses as evidence based practice for reducing pain during first stage of labour.

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