

**“A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF ABDOMINAL EFFLEURAGE ON LABOR PAIN INTENSITY AMONG PRIMIPARA MOTHERS DURING 1<sup>ST</sup> STAGE OF LABOR IN SELECTED HOSPITALS OF DISTT. MOHALI, PUNJAB.”**

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**ABSTRACT:**

Childbirth is considered to be one of the crucial events in a woman's life. Treating pain is important because coping with pain influences the birthing experiences as is the most excruciating pain that every mother has to bear while giving birth. The role of the health care provider is to handle the parturient with immense care. With this aim, the study was conducted to evaluate the effectiveness of abdominal effleurage on labor pain intensity among primipara mothers during 1<sup>st</sup> stage of labor in selected hospitals of Distt. Mohali, Punjab. Quantitative approach with a Pre Experimental One Group Pre-test Posttest Research Design was used. By using non-probability purposive sampling technique, 35 primipara mothers undergoing 1<sup>st</sup> stage of labor were selected from Dr. B.R Ambedkar State Institute of Medical Science, phase 6, Mohali, Punjab in the month of June 2023. Data was collected by using the Numeric Pain Rating Scale (NPRS), Likert scale to assess the level satisfaction of primipara mother after abdominal effleurage and Structured Record analysis Performa for maternal and fetal outcome. Findings of the study revealed that majority 17 (48.6%) primipara mothers were between age group of 26-29 years, 33 (94.3%) primipara mothers belong to Hindu religion, 20 (57.1%) primipara mothers were married, 18 (51.4%) had secondary education, 14 (40%) worked as private employees, 14 (40%) had monthly income between Rs.40,001/- and above, 22(62.9%) belonged to urban area and 22 (62.9%) were between 37-38 weeks of gestation. During Active phase of 1<sup>st</sup> stage of labor, the mean pre-test pain score was high ( $6.29 \pm 1.888$ ) whereas mean post-test pain score for the same group was less ( $3.11 \pm 1.762$ ). Calculated paired 't' value ( $t_{(0.05)} = 7.294$ ,  $<0.001$ ) was highly significant at 0.05 level. Hence, the research hypothesis was accepted. During Transition phase of 1<sup>st</sup> stage of labor, the mean pre-test pain score was high ( $6.97 \pm 1.823$ ) whereas mean post-test pain score for the same group was less ( $5.6 \pm 1.333$ ). Calculated paired 't' value ( $t_{(0.05)} = 3.505$ ,  $<0.001$ ) was highly significant at 0.05 level. Hence, the research hypothesis was accepted. In active phase, there was no association of pre-test pain scores with age, religion, marital status, educational status, occupational status, family income per month, residential area and present period of Gestation whereas in transition phase, there was an association of pre-test pain scores with occupational status. In active phase, there was no association of post-test pain scores of selected maternal and fetal outcomes with duration of 1<sup>st</sup> stage of labor, nature of labor, show, membranes, color of liquor amnii, mode of delivery, the newborn is born, newborn cried immediately after birth, APGAR score at 1 min after birth and level of satisfaction after abdominal effleurage whereas in transition phase, there was an association of post-test pain scores seen between selected maternal and fetal outcomes with mode of delivery. Hence, it was concluded that the abdominal effleurage was effective to reduce the labor pain intensity to some extent.

**Keywords:** Abdominal Effleurage, primipara mothers.

**INTRODUCTION:**

Childbirth is considered to be one of the crucial events in a woman's life. On one hand, it is a wonderful peregrination of nine months filled with lots of ecstasy as well as requires intensive care. During the first stage of labor, women usually perceive the visceral pain of diffuse abdominal cramping and uterine contractions. The primipara woman generally experiences more sensory pain during the early phase of first stage of labor, while multipara woman may have more intense pain during the late first stage and the second stage of labor, as a result of rapid fetal descent.<sup>1</sup>

The Effleurage is high gliding movement over the skin that always maintain contact and directs the strokes towards the heart. Effleurage is performed by the laboring woman or by her husband or by the midwife.<sup>2</sup> The massage basically has four steps- Effleurage, Petrissage, tapotement and vibrations. Effleurage is basically the type of massage. The word "Effleurage" is derived from the French word *effleurer* which means "to touch lightly." It is the most basic massage movement and it is often used as a linking movement/ stroking movement. Effleurage is provided with the entire palmer surface of the hand and commence with superficial strokes. As the pressure applied is light, the direction of stroke may be towards the heart or away from the heart. The hand should exert equal pressure over the entire contact area. An effleurage movement is usually repeated over several times over the same area on the body. It stimulates the nerve endings called "Meissner's corpuscles" which travel faster across the body than the signal of pain, thereby "blocking" the pain signal from reaching the brain so quickly. The shape of the movement pattern is like "butterfly". It should be continued for 30 minutes at an interval of 2 hours for 3 times. The physical benefits of effleurage which includes by stimulating blood supply to the tissues and facilitate in cleansing of the skin; relaxing muscle fibers and decreasing muscle tension.<sup>3</sup>

Treating labor pain is important, because coping with pain influences the birthing experiences. It is the most excruciating pain that every pregnant woman has to bear while giving birth to her child and the level of severity and quality of labor pain differs in each woman. The duration of labor pain and induced anxiety would affect the physiological functions of respiratory, circulatory and endocrine system, which would adversely affect the progress of labor. Labor and delivery are physiological processes, whereas the birth of a child is an anticipated social event for mothers as well as their families. A collaborative approach has to be applied as the labor initiates as the mother's duty is to give birth, while the role of the health care provider is to handle the parturient with immense care and the family offers the mother assistance and support.<sup>4</sup>

**OBJECTIVES OF THE STUDY:**

1. To assess the pre-test level of the labor pain intensity before administration of abdominal effleurage among primipara mothers during 1<sup>st</sup> stage of labor in experimental group.
2. To administer the abdominal effleurage among primipara mothers during 1<sup>st</sup> stage of labor in experimental group.
3. To evaluate the effectiveness of abdominal effleurage on labor pain intensity among primipara mothers during 1<sup>st</sup> stage of labor in experimental group.
4. To assess the post-test level of the labor pain intensity after administration of abdominal effleurage among primipara mothers during 1<sup>st</sup> stage of labor in experimental group.
5. To determine the association between the pre-test level of labor pain intensity with the selected demographic variables among primipara mothers during 1<sup>st</sup> stage of labor in the experimental group.

6. To determine the association between post-test level of the labor pain intensity with the selected maternal and fetal outcomes among primipara mothers during 1<sup>st</sup> stage of labor in the experimental group.

**MATERIALS AND METHODS:**

A Pre- Experimental one group pre test post test research design was used for the study. The non-probability purposive sampling technique was used and 35 primipara mothers were taken as sample from Dr. B.R Ambedkar State Institute of Medical Science, phase 6, Mohali, Punjab in the month of June 2023. The data were collected using the performa for selected socio-demographic variables and Numeric Pain Rating Scale (NPRS), Likert scale to assess the level satisfaction of primipara mother after abdominal effleurage and Structured Record analysis Performa for maternal and fetal outcome. The tools were validated by seven experts. Reliability of tool is established through split half method by computing Karl Pearson's coefficient of correlation which was found reliable ( $r=0.86$ ). The pretest level of labor pain intensity was assessed by using Numeric Pain Rating Scale (NPRS) in both active and transition phase and the abdominal effleurage was administered on primipara mothers during 1<sup>st</sup> stage of labor in both active and transition phase. Then post test was conducted by using the Numeric Pain Rating Scale (NPRS), Likert scale to assess the level satisfaction of primipara mother after abdominal effleurage and Structured Record analysis Performa for maternal and fetal outcome same tool. The data analysis was done by using both descriptive and inferential statistics.

**STATEMENT OF THE PROBLEM:**

A pre experimental study to assess the effectiveness of abdominal effleurage on labor pain intensity among primipara mothers during 1<sup>st</sup> stage of labor in selected hospitals of Distt. Mohali, Punjab.

**RESULTS AND DISCUSSION:**

**Table 1: Distribution of primipara mothers according to their socio- demographic variables.**

N=35

Variables	Options	Frequency	Percentage
Age	18-21 years	4	11.4%
	22-25 years	5	14.3%
	26-29 years	17	48.6%
	≥30 years	9	25.7%
Religion	Hindu	33	94.3%
	Muslim	0	0.0%
	Sikh	2	5.7%
	Christian	0	0.0%
Marital status	Widow	0	0.0%
	Single	4	11.4%
	Divorced	11	31.4%
	Married	20	57.1%
Educational Status	No formal education	10	28.6%
	Primary education	4	11.4%
	Secondary education	18	51.4%

	Graduation and above	3	8.6%
Occupation of mother	Private Employee	14	40.0%
	Government Employee	11	31.4%
	Self Employed	5	14.3%
	Housewife	5	14.3%
Family monthly income	Below Rs. 20,000/-	3	8.6%
	Rs. 20,001-30,000/-	9	25.7%
	Rs. 30,001-40,000/-	9	25.7%
	Rs. 40,001 and above	14	40.0%
Area of Residence	Urban	22	62.9%
	Rural	13	37.1%
Present period of Gestation	37-38 weeks	22	62.9%
	39-40 weeks	13	37.1%
	Above 40 weeks	0	0.0%

**Table 1** denotes that age, maximum 17 (48.6%) primipara mothers were between age group of 26-29 years, 09 (25.7%) belonged to  $\geq 30$  years, 05 (14.3%) were in 22-25 years of age group and 04 (11.4%) were in 18-21 years of age group. According to religion, maximum 33 (94.3%) primipara mothers belong to Hindu religion, only 02 (5.7%) were Sikhs and none of them belonged to Muslim and Christian religion. According to Marital status, majority 20 (57.1%) of primipara mothers were married, 11 (31.4%) were divorced, only 4 (11.4%) were single mothers and none of them were widows. According to Educational status, majority 18 (51.4%) of primipara mothers had secondary education, 10 (28.6%) were having no formal education, only 4 (11.4%) had primary level of education and 03 (8.6%) were graduated and above. According to Occupational status, majority 14 (40%) primipara mothers were private employees, 11 (31.4%) were government employees, 5 (14.3%) were self employed and similarly 5 (14.3%) were housewives. According to family income per month, maximum 14 (40%) had monthly income more than Rs.40,001/- and above, whereas 09 (25.7%) had between Rs. 20,001/-, to 30,000/-, 09 (25.7%) had their monthly income between Rs.30,001/-, to 40,000/- and only 03 (8.6%) had their monthly income below Rs. 20,000/-. According to Residential area, majority of primipara mothers 22(62.9%) belonged to urban area and only 13 (37.1%) were from rural area. According to present period of Gestation, majority of primipara mothers 22 (62.9%) were between 37-38 weeks of gestation, whereas 13 (37.1%) were in 39-40 week of gestation and none of them had their gestational period above 40 weeks.

**Table 2a: Comparison of pre-test and post-test level of labor pain in Active phase among primipara mothers during 1<sup>st</sup> stage of labor in experimental group.**

SCORE LEVEL	ACTIVE PHASE PAIN SCORE			
	PRE-TEST		POSTTEST	
	F	%	F	%
<b>NO PAIN (0)</b>	0	(0%)	0	(0%)
<b>MILD PAIN (1-3)</b>	0	(0%)	24	(68.6%)
<b>MODERATE PAIN (4-6)</b>	22	(62.9%)	11	(31.4%)

<b>SEVERE PAIN (7-10)</b>	<b>(7-</b>	13	(37.1%)	0	(0%)
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N=35

Maximum Score=10 Minimum Score=0

**Table 2a** denotes the comparison of pre-test and post- test level of labor pain in Active phase among primipara mothers during 1<sup>st</sup> stage of labor.

In pre-test, 22 (62.9%) primipara mothers had moderate level of pain whereas 13 (37.1%) primipara mothers had severe level of pain and neither the primipara mothers felt mild pain nor anyone of them felt absence of pain. By conducting post-test in same group, it was seen that 24 (68.6%) primipara mothers had mild level of labor pain intensity whereas 11 (31.4%) primipara mothers had moderate level of pain. While none of them had severe level of pain or felt absence of pain. It was found that in active phase, the pre-test level of labor pain intensity was moderate in majority of primipara mothers and also some of them also experienced severe pain whereas in posttest, the labor pain intensity was mild among majority of primipara mothers and few had moderate level of pain. None of them had severe level of labor pain intensity as revealed in pre-test group. Hence, it reveals that the abdominal effleurage was effective to reduce the labor pain intensity from severe level to mild level.

**Table 2b: Comparison of pre-test and post-test level of labor pain in Transition phase among primipara mothers during 1<sup>st</sup> stage of labor in experimental group.**

N=35

SCORE LEVEL	TRANSITION PHASE PAIN SCORE			
	PRE-TEST		POSTTEST	
	F	%	F	%
<b>NO PAIN (0)</b>	0	(0%)	0	(0%)
<b>MILD PAIN (1-3)</b>	0	(0%)	0	(0%)
<b>MODERATE PAIN (4-6)</b>	13	(37.1%)	30	(85.7%)
<b>SEVERE PAIN (7-10)</b>	22	(62.9%)	5	(14.3%)

Maximum Score=10 Minimum Score=0

**Table 2b** denotes that denotes the comparison of pre-test and post- test level of labor pain in Transition phase among primipara mothers during 1<sup>st</sup> stage of labor.

In pre-test, 22 (62.9%) primipara mothers had severe level of pain whereas 13 (37.1%) primipara mothers had moderate level of pain and neither the primipara mothers felt mild pain nor anyone of them felt absence of pain. By conducting post-test in same group, it was seen that 30 (85.7%) primipara mothers had moderate level of labor pain intensity whereas 05 (14.3%) primipara mothers had severe level of pain. While none of them had mild level of pain or felt absence of pain.

It was found that in transition phase, the pre-test level of labor pain intensity was severe in majority of primipara mothers and also some of them also experienced moderate pain whereas in posttest, the labor pain intensity was reduced from severe to moderate among majority of primipara mothers and only few of them had severe level of pain. None of them had mild level or absence of labor pain intensity as in pre-test

group. Hence, it reveals that the abdominal effleurage was effective to reduce the labor pain intensity from severe level to moderate level.

**Table 3a: Effectiveness of abdominal effleurage among primipara mothers during Active phase of 1<sup>st</sup> stage of labor in experimental group.** N=35

Paired T Test	Mean±S.D.	Mean%	Mean Diff.	Paired T Test	P value	Table Value at 0.05	Result
PRE TEST	6.29±1.888	62.90	-3.180	7.294	<0.001	2.03	Significant
POST TEST	3.11±1.762	31.10					

Maximum=10 Minimum=0

**Table 3a** summarizes the paired 't' test analysis of pre-test and post-test level of labor pain intensity conducted during Active phase of 1<sup>st</sup> stage of labor in experimental group among primipara mothers. The mean pre-test pain score of the experimental group was high (6.29±1.888) whereas mean post-test pain score for the same group was less (3.11±1.762). Calculated paired 't' value ( $t_{(0.05)} = 7.294$ , <0.001) of experimental group shows highly significant at 0.05 level. Hence, the research hypothesis was accepted. Thus, it can be concluded that abdominal effleurage was an effective intervention in decreasing the labor pain intensity to some extent.

**Table 3b: Effectiveness of abdominal effleurage among primipara mothers during Transition phase of 1<sup>st</sup> stage of labor in experimental group.** N=35

Paired T Test	Mean±S.D.	Mean%	Mean Diff.	Paired T Test	P value	Table Value at 0.05	Result
PRE TEST	6.97±1.823	69.70	-1.370	3.505	<0.001	2.03	Significant
POST TEST	5.6±1.333	56.00					

Maximum=10 Minimum=0

**Table 3b** summarizes the paired 't' test analysis of pre-test and post-test level of labor pain intensity conducted during Transition phase of 1<sup>st</sup> stage of labor in experimental group among primipara mothers. The mean pre-test pain score of the experimental group was high (6.97±1.823) whereas mean post-test pain score for the same group was less (5.6±1.333). Calculated paired 't' value ( $t_{(0.05)} = 3.505$ , <0.001) of experimental group shows highly significant at 0.05 level. Hence, the research hypothesis was accepted. Thus, it can be concluded that abdominal effleurage was an effective intervention in decreasing the labor pain intensity to some extent.

**Table 4a: Association of pretest pain (active phase) scores with selected socio- demographic variables.** N=35

Variables	Opts	SEVERE PAIN	MODERATE PAIN	MILD PAIN	NO PAIN	Chi Test	P Value	df	Table Value	Result
Age	18-21 years	2	2	0	0	1.893	0.595	3	7.815	

	22-25 years	3	2	0	0					Not Significant
	26-29 years	5	12	0	0					
	≥30 years	3	6	0	0					
Marital status	Married	13	20	0	0	1.253	0.263	1	3.841	Not Significant
	Single	0	0	0	0					
	Divorced	0	2	0	0					
	Widow	0	0	0	0					
Educational Status	No formal education	0	0	0	0	2.895	0.235	2	5.991	Not Significant
	Primary education	3	1	0	0					
	Secondary education	4	7	0	0					
	Graduation and above	6	14	0	0					
Religion	Hindu	3	7	0	0	2.686	0.443	3	7.815	Not Significant
	Muslim	2	2	0	0					
	Sikh	8	10	0	0					
	Christian	0	3	0	0					
Occupation of mother	Private Employee	7	7	0	0	4.433	0.218	3	7.815	Not Significant
	Government Employee	2	9	0	0					
	Self Employed	1	4	0	0					
	Housewife	3	2	0	0					
Family monthly income	Below Rs. 20,000/-	1	2	0	0	1.822	0.610	3	7.815	Not Significant
	Rs. 20,001-30,000/-	5	4	0	0					
	Rs. 30,001-40,000/-	3	6	0	0					
	Rs. 40,001 and above	4	10	0	0					
Area of Residence	Urban	8	14	0	0	0.015	0.901	1	3.841	Not Significant
	Rural	5	8	0	0					
Present period of gestation	37-38 weeks	8	14	0	0	0.015	0.901	1	3.841	Not Significant
	39-40 weeks	5	8	0	0					
	Above 40 weeks	0	0	0	0					

- According to age, the obtained chi square value ( $\chi^2_{(3, 0.05)} = 1.893, 0.595$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with age among primipara mothers during 1<sup>st</sup> stage of labor.
- According to marital status, the obtained chi square value ( $\chi^2_{(1, 0.05)} = 1.253, 0.263$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with marital status among primipara mothers during 1<sup>st</sup> stage of labor.

- According to educational status, that the obtained chi square value ( $\chi^2_{(2, 0.05)} = 2.895, 0.235$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with educational status among primipara mothers during 1<sup>st</sup> stage of labor.
- According to religion, the obtained chi square value ( $\chi^2_{(3, 0.05)} = 2.686, 0.443$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with religion among primipara mothers during 1<sup>st</sup> stage of labor.
- According to occupation of mother, the obtained chi square value ( $\chi^2_{(3, 0.05)} = 4.433, 0.218$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with occupation of mother among primipara mothers during 1<sup>st</sup> stage of labor.
- According to family monthly income, the obtained chi square value ( $\chi^2_{(3, 0.05)} = 1.822, 0.610$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with family monthly income among primipara mothers during 1<sup>st</sup> stage of labor.
- According to area of residence, the obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.015, 0.901$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with area of residence among primipara mothers during 1<sup>st</sup> stage of labor.
- According to present period of gestation, the obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.015, 0.901$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with present period of gestation among primipara mothers during 1<sup>st</sup> stage of labor.

**Table 4b: Association of pretest pain (transition phase) scores with their selected socio-demographic variables.**

N=35

Variables	Opts	SEVERE PAIN	MODERATE PAIN	MILD PAIN	NO PAIN	Chi Test	P Value	df	Table Value	Result
Age	18-21 years	3	1	0	0	4.677	0.197	3	7.815	Not Significant
	22-25 years	4	1	0	0					
	26-29 years	12	5	0	0					
	≥30 years	3	6	0	0					
Marital status	Married	21	12	0	0	0.150	0.698	1	3.841	Not Significant
	Single	0	0	0	0					
	Divorced	1	1	0	0					
	Widow	0	0	0	0					



Educational Status	No formal education	0	0	0	0	0.325	0.850	2	5.991	Not Significant
	Primary education	3	1	0	0					
	Secondary education	7	4	0	0					
	Graduation and above	12	8	0	0					
Religion	Hindu	5	5	0	0	3.114	0.374	3	7.815	Not Significant
	Muslim	4	0	0	0					
	Sikh	11	7	0	0					
	Christian	2	1	0	0					
Occupation of mother	Private Employee	12	2	0	0	9.123	0.028	3	7.815	Significant
	Government Employee	5	6	0	0					
	Self Employed	1	4	0	0					
	Housewife	4	1	0	0					
Family monthly income	Below Rs. 20,000/-	2	1	0	0	0.870	0.833	3	7.815	Not Significant
	Rs. 20,001-30,000/-	5	4	0	0					
	Rs. 30,001-40,000/-	5	4	0	0					
	Rs. 40,001 and above	10	4	0	0					
Area of Residence	Urban	13	9	0	0	0.360	0.549	1	3.841	Not Significant
	Rural	9	4	0	0					
Present period of gestation	37-38 weeks	12	10	0	0	1.753	0.186	1	3.841	Not Significant
	39-40 weeks	10	3	0	0					
	Above 40 weeks	0	0	0	0					

- According to age, the obtained chi square value ( $\chi^2_{(3, 0.05)} = 4.677, 0.197$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with age among primipara mothers during 1<sup>st</sup> stage of labor.
- According to marital status, the obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.150, 0.698$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with marital status among primipara mothers during 1<sup>st</sup> stage of labor.
- According to educational status, that the obtained chi square value ( $\chi^2_{(2, 0.05)} = 0.325, 0.850$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with educational status among primipara mothers during 1<sup>st</sup> stage of labor.
- According to religion, the obtained chi square value ( $\chi^2_{(3, 0.05)} = 3.114, 0.374$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no

association between pre-test level of labor pain intensity with religion among primipara mothers during 1<sup>st</sup> stage of labor.

- According to occupation of mother, the obtained chi square value ( $\chi^2_{(3, 0.05)} = 9.123, 0.028$ ) was at 0.05 level of significance. Hence, the research hypothesis was accepted. So, it was concluded that there was an association between pre-test level of labor pain intensity with occupation of mother among primipara mothers during 1<sup>st</sup> stage of labor.
- According to family monthly income, the obtained chi square value ( $\chi^2_{(3, 0.05)} = 0.870, 0.833$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with family monthly income among primipara mothers during 1<sup>st</sup> stage of labor.
- According to area of residence, the obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.360, 0.549$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with area of residence among primipara mothers during 1<sup>st</sup> stage of labor.
- According to present period of gestation, the obtained chi square value ( $\chi^2_{(1, 0.05)} = 1.753, 0.186$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between pre-test level of labor pain intensity with present period of gestation among primipara mothers during 1<sup>st</sup> stage of labor.

**Table 5a: Association of post-test pain (active phase) scores with selected maternal and fetal outcomes.** N=35

Variables	Opts	SEVERE PAIN	MODERATE PAIN	MILD PAIN	NO PAIN	Chi Test	P Value	df	Table Value	Result
Duration of 1st stage of labor	6-8 hours	0	0	0	0	0.000	0.983	1	3.841	Not Significant
	9-11 hours	0	6	13	0					
	≥12 hours	0	5	11	0					
Nature of labor	Spontaneous labor	0	7	18	0	0.477	0.490	1	3.841	Not Significant
	Augmented labor	0	4	6	0					
Show	Absent	0	2	3	0	0.199	0.656	1	3.841	Not Significant
	Present	0	9	21	0					
Membranes	Intact	0	0	3	0	1.504	0.220	1	3.841	Not Significant
	Ruptured	0	11	21	0					
Color of liquor amnii	Clear	0	10	22	0	0.006	0.941	1	3.841	Not Significant
	Meconium stained	0	1	2	0					
	Any other	0	0	0	0					

Mode of delivery	Spontaneous vaginal delivery	0	10	22	0	0.006	0.941	1	3.841	Not Significant
	Instrumental delivery	0	0	0	0					
	Lower segment cesarean section	0	1	2	0					
The newborn is born	Alive	0	11	24	0	N.A				
	Asphyxiated	0	0	0	0					
	Still Birth	0	0	0	0					
Newborn cried immediately after birth	Yes	0	11	24	0	N.A				
	No	0	0	0	0					
APGAR score at 1 min after birth	0-3	0	0	0	0	N.A				
	4-6	0	0	0	0					
	7-10	0	11	24	0					
Level of satisfaction after Abdominal effleurage	Strongly Unsatisfied	0	2	1	0	7.675	0.053	3	7.815	Not Significant
	Unsatisfied	0	0	7	0					
	Neutral	0	4	12	0					
	Satisfied	0	5	4	0					
	Strongly Satisfied	0	0	0	0					

- According to duration of 1st stage of labor, majority 13 primipara mothers had 9-11 hours of 1st stage of labor with mild pain after administration of abdominal effleurage and none of them had 6-8 hours of 1<sup>st</sup> stage of labor. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.000, 0.983$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with duration of 1st stage of labor among primipara mothers during 1<sup>st</sup> stage of labor.
- According to nature of labor, majority of 18 primipara mothers had undergone Spontaneous labor and had mild pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.477, 0.490$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with nature of labor among primipara mothers during 1<sup>st</sup> stage of labor.
- According to show, among 21 primipara mothers show was present along with mild pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.199, 0.656$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with show among primipara mothers during 1<sup>st</sup> stage of labor.

- According to membranes, majority of 21 primipara mothers had ruptured membranes and mild pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 1.504, 0.220$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with membranes among primipara mothers during 1<sup>st</sup> stage of labor.
- According to color of liquor amnii, majority of 22 primipara mothers had clear liquor amnii and mild pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.006, 0.941$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with color of liquor amnii among primipara mothers during 1<sup>st</sup> stage of labor.
- According to mode of delivery, majority of 22 primipara mothers had Spontaneous vaginal delivery along with mild pain after administration of abdominal effleurage. Whereas 3 had Lower segment cesarean section and none of them had Instrumental delivery. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.006, 0.941$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with mode of delivery among primipara mothers during 1<sup>st</sup> stage of labor.
- According to the newborn is born, both majority of 24 newborns of primipara mothers with mild pain and other 11 newborns of primipara mothers with moderate level of labor pain had given birth to alive newborns. None of them had asphyxiated or still birth newborns.
- According to newborn cried immediately after birth, both majority of 24 newborns of primipara mothers with mild pain and other 11 newborns of primipara mothers with moderate level of labor pain cried immediately after birth.
- According to APGAR score at 1 min after birth, both majority of 24 newborns of primipara mothers with mild pain and other 11 newborns of primipara mothers with moderate level of labor pain had APGAR score between 7-10. None of them had APGAR score at 1 min after birth between 0-3 and 4-6.
- According to level of satisfaction after abdominal effleurage, majority of 12 primipara mothers had neutral level of satisfaction after administration of abdominal effleurage and had mild pain and none of them were strongly satisfied. The obtained chi square value ( $\chi^2_{(3, 0.05)} = 7.675, 0.053$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with level of satisfaction after abdominal effleurage among primipara mothers during 1<sup>st</sup> stage of labor.

**Table 5b: Association of post-test level of labor pain intensity (transition phase) scores with selected maternal and fetal outcomes** N=35

Variables	Opts	SEVERE PAIN	MODERATE PAIN	MILD PAIN	NO PAIN	Chi Test	P Value	df	Table Value	Result
Duration of 1st stage of labor	6-8 hours	0	0	0	0	2.462	0.117	1	3.841	Not Significant
	9-11 hours	5	14	0	0					

	≥12 hours	1	15	0	0					
Nature of labor	Spontaneous labor	4	21	0	0	0.080	0.777	1	3.841	Not Significant
	Augmented labor	2	8	0	0					
Show	Absent	1	4	0	0	0.034	0.855	1	3.841	Not Significant
	Present	5	25	0	0					
Membranes	Intact	2	1	0	0	5.666	0.017	1	3.841	Significant
	Ruptured	4	28	0	0					
Color of liquor amnii	Clear	6	26	0	0	0.679	0.410	1	3.841	Not Significant
	Meconium stained	0	3	0	0					
	Any other	0	0	0	0					
Mode of delivery	Spontaneous vaginal delivery	6	26	0	0	0.679	0.410	1	3.841	Not Significant
	Instrumental delivery	0	0	0	0					
	Lower segment cesarean section	0	3	0	0					
The newborn is born	Alive	6	29	0	0	N.A				
	Asphyxiated	0	0	0	0					
	Still Birth	0	0	0	0					
Newborn cried immediately after birth	Yes	6	29	0	0	N.A				
	No	0	0	0	0					
APGAR score at 1 min after birth	0-3	0	0	0	0	N.A				
	4-6	0	0	0	0					
	7-10	6	29	0	0					
Level of satisfaction after Abdominal effleurage	Strongly Unsatisfied	1	2	0	0	2.194	0.533	3	7.815	Not Significant
	Unsatisfied	0	7	0	0					
	Neutral	3	13	0	0					
	Satisfied	2	7	0	0					
	Strongly Satisfied	0	0	0	0					

- According to duration of 1st stage of labor, majority 15 primipara mothers had ≥12 hours of 1st stage of labor with moderate pain after administration of abdominal effleurage and none of them had 6-8 hours of 1<sup>st</sup> stage of labor. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 2.462, 0.117$ ) was higher at 0.05

level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with duration of 1<sup>st</sup> stage of labor among primipara mothers during 1<sup>st</sup> stage of labor.

- According to nature of labor, majority of 21 primipara mothers had undergone Spontaneous labor and had moderate pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.080, 0.777$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with nature of labor among primipara mothers during 1<sup>st</sup> stage of labor.
- According to show, among 25 primipara mothers show was present along with moderate pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.034, 0.855$ ) was higher at 0.05 level of significance. Hence the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with show among primipara mothers during 1<sup>st</sup> stage of labor.
- According to membranes, majority of 28 primipara mothers had ruptured membranes and moderate pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 5.666, 0.017$ ) was at 0.05 level of significance. Hence, the research hypothesis was accepted. So, it was concluded that there was an association between post -test level of labor pain intensity with membranes among primipara mothers during 1<sup>st</sup> stage of labor.
- According to color of liquor amnii, majority of 26 primipara mothers had clear liquor amnii and moderate pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.679, 0.410$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with color of liquor amnii among primipara mothers during 1<sup>st</sup> stage of labor.
- According to mode of delivery, majority of 26 primipara mothers had Spontaneous vaginal delivery along with moderate pain after administration of abdominal effleurage. The obtained chi square value ( $\chi^2_{(1, 0.05)} = 0.679, 0.410$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that there was no association between post -test level of labor pain intensity with mode of delivery among primipara mothers during 1<sup>st</sup> stage of labor.
- According to the newborn is born, both majority of 29 newborns of primipara mothers with moderate level of labor pain and other 06 newborns of primipara mothers with severe level of labor pain had given birth to alive newborns. None of them had asphyxiated or still birth newborns.
- According to newborn cried immediately after birth, both majority of 29 newborns of primipara mothers with moderate pain and other 06 newborns of primipara mothers with severe level of labor pain cried immediately after birth.
- According to APGAR score at 1 min after birth, both majority of 29 newborns of primipara mothers with moderate pain and other 06 newborns of primipara mothers with severe level of labor pain had APGAR score between 7-10. None of them had APGAR score at 1 min after birth between 0-3 and 4-6.
- According to level of satisfaction after abdominal effleurage, majority of 13 primipara mothers had neutral level of satisfaction after administration of abdominal effleurage and had moderate pain and none of them were strongly satisfied. The obtained chi square value ( $\chi^2_{(3, 0.05)} = 2.194, 0.533$ ) was higher at 0.05 level of significance. Hence, the research hypothesis was rejected. So, it was concluded that

there was no association between post -test level of labor pain intensity with level of satisfaction after abdominal effleurage among primipara mothers during 1<sup>st</sup> stage of labor.

### RECOMMENDATIONS:

Based on the results of study, the recommendations made were:

- The study can be replicated on a large sample to validate and generalize its findings.
- Similar studies can be conducted on multipara mothers regarding abdominal effleurage in selected hospital(s).
- A descriptive study can be conducted to assess the knowledge and attitude of nurses regarding abdominal effleurage in selected hospital(s).
- A study can be conducted to assess the attitude and level of satisfaction of primipara mothers regarding abdominal effleurage in selected hospital(s).

### CONCLUSION:

Based on the findings the following conclusions were drawn. In active phase, the pre-test level of labor pain intensity was moderate in majority of primipara mothers whereas in posttest, the labor pain intensity was mild among majority of primipara mothers. In transition phase, the pre-test level of labor pain intensity was severe in majority of primipara mothers whereas in posttest, the labor pain intensity was reduced from severe to moderate. Hence, it was concluded that abdominal effleurage is one of the effective interventions in decreasing the labor pain intensity to some extent. In active phase, age, religion, marital status, family income per month, residential area and present period of Gestation had no influence on labor pain intensity of primipara mothers during 1<sup>st</sup> stage of labor. In transition phase, occupational status showed influence on labor pain intensity of primipara mothers during 1<sup>st</sup> stage of labor. In active phase, there was no association of post-test pain scores of selected maternal and fetal outcomes with duration of 1st stage of labor, nature of labor, show, membranes, color of liquor amnii, mode of delivery, the newborn is born, newborn cried immediately after birth, APGAR score at 1 min after birth and level of satisfaction after abdominal effleurage. In transition phase, there was an association of post-test pain scores with selected maternal and fetal outcomes showed no association with membranes after abdominal effleurage.

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