# Effectiveness Of Back Massage In First Stage Labour Pain Among Pregnant Women

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**ABSTRACT :**
**Introduction**
**Labour pain is an unpleasant phenomenon with both physical and emotional aspects. It has a common experience for all women during the delivery time. Therefore, a pain relief measure for mothers during labour is very important.  A women's experience of labour pain is influenced by many factor including her past experience of pain, her coping abilities, the birth environment and psychological factors. Massage is a cost effective nursing intervention that can decrease pain and anxiety during labour and psychological support during labour.**
**Material and methods**
**Quasi-experimental design to evaluate the effectiveness of back massage among pregnant women in first stage of labor pain admitted in labor room in selected hospital of Gurugram, Delhi NCR. Purposive sampling techniques were used to select the 60 pregnant women. Modified Universal pain assessment scale was used to assess the level of pain.**
**Result**
**The findings of the study revealed that pre-test pain score in experimental group 22(73.3%) women have mild pain, 8(26.6%) women have moderate pain and no women have severe pain during 3-4cm cervical dilatation. 3(10%) women have mild pain, 24(80%) women have moderate pain and 3(10%) women have severe pain during 5-7cm cervical dilatation. No women have mild pain, 18(60%) women have moderate pain and 12(40%) women have severe pain during 8-10cm cervical dilatation before intervention. Post-test pain score; in experimental group all women have mild pain, during 3-4cm cervical dilatation. 96.6% women have mild pain, 6.6% women have moderate pain and no women have severe pain during 5-7cm cervical dilatation. 70% women have mild**

**pain, 30% women have moderate pain and no women have severe pain during 8-10cm cervical dilatation. The mean of pre-test score is 14.63 ± 2.79 and post-test score is 5.7 ± 2.69 having significant difference with t value of 12.68 at the level of significance p value of 0.00001.**
**Conclusion**
**Back massage were effective in reducing the pain among pregnant women in first stage of labor pain admitted in labor room in selected hospital of Gurugram, Delhi NCR.**

**Key words:** Labor pain, back massage, pregnant women.

**Introduction:**

Low back pain was only one early sign of labor, but unfortunately for some women this symptom can multiply the intensity of the birth. Back pain is a normal precursor to birth[5]. It is normal as other signs of labor such as contractions, water breaking and cramping. Pain is a stimulus of receptive neurons arising from contraction of the uterine muscles, which are referred to as the visceral, pelvic and lumbosacral areas. Other causes of pain during labor include pressure on the bladder and bowel by the baby's head and stretching of the birth canal and vagina.

Non-pharmacological pain relief measures such as continuous support, baths, touch and massage, maternal movement and positioning, and intradermal water blocks for back pain among these non-pharmacological measures massage can decrease pain by stimulating the release of endorphin, stimulating mechanoreceptors, stimulating circulation with results in increase oxygenation to tissue and facilitating the excretion of toxin through the lymphatic system. Massage also reduces the ischemia by amplification of local blood supply. Endrophins are endogenous opioid polypeptide compounds. They are produced by the pituitary gland and the hypothalamus in vertebrates during strenuous exercise, and they resemble the opiates in their abilities to produce analgesia and sense of wellbeing. Massage is a cost effective nursing practice that can decrease pain and anxiety during 1st stage of labor and partner's participation in the massage can also positively influence the quality of women's birth experience.

**Method:**

Quantitative Non-randomized control group design study was conducted among Pregnant women who are in first stage of labor pain at labor room of civil hospital and mission hospital, Bahadurgarh. Purposive sampling technique were used to select 60 pregnant women in first stage of labor (30 experimental group) (30 control group). Modified Universal pain

assessment tool was used to evaluate the effectiveness of back massage among pregnant women in first stage of labor pain. The back massage was applied by using 5 ml olive oil to the experimental group. Massage for pregnant women during intrapartum period was implemented in three phases. The first massage was done at the end of the latent phase when contractions began at 3-4 cm cervical dilatation. The second and third massage was applied during 5-7 cm and 8-10 cm cervical dilatation, respectively; when contractions started. All massages were applied for 30 minutes each time at the beginning of the contractions in every phase of the intra-partum period. After the back massage, the most severe contractions experienced were evaluated by modified universal pain assessment scale. Pregnant women in the control group received standard care in the labor room and their universal pain assessment scale is also evaluated during the same phases. Collected data was coded, tabulated and analyzed by descriptive and inferential statistics.

**Results:**

Women according to 22-25years age, majority of percentage (46.6%) in experimental group and majority of percentage (43.3%) in control group. (36.6%) in experimental group of pregnant women were in 20,000-30,000 family income and majority of percentage (36.6%) in control group of pregnant women were in 10001-20,000 family income.(53.3%) in experimental group and majority of percentage (50%) in control group of pregnant women were in illitrate group. (86.6%) in experimental group and majority of percentage (73.3%) in control group of pregnant women were in unemployed group. (90%) in experimental group and majority of percentage (96.6%) in control group of pregnant women were in nuclear family. (70%) in experimental group and majority of percentage (63.3%) in control group of pregnant women were Hindu. (56.6%) in experimental group and majority of percentage (63.3%) in control group of pregnant women were primigravida mother. (83.3%) in experimental group and majority of percentage (90%) in control group of pregnant women were >37 weeks of gestation. Any history of abortion, majority of percentage (86.6%) in experimental group and majority of percentage (83.3%) in control group of pregnant women were history of abortion.

Table 1: Frequency and percentage distribution of pregnant women in first stage of labor according to the level of pain in experimental group and control group before intervention.

n=60

| S. No. | Level of pain | Experimental group n=30 | | | | | | Control group n=30 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3-4cm Cervical dilatation | | 5-7cm Cervical dilatation | | 8-10cm Cervical dilatation | | 3-4cm Cervical dilatation | | 5-7cm Cervical dilatation | | 8-10cm Cervical dilatation | |
| | | f | % | f | % | F | % | f | % | f | % | f | % |
| 1. | Mild pain | 22 | 73.3 | 3 | 10 | 0 | 0 | 27 | 90 | 3 | 10 | 0 | 0 |
| 2. | Moderate pain | 8 | 26.6 | 24 | 80 | 18 | 60 | 3 | 10 | 26 | 86.6 | 14 | 46.6 |
| 3. | Severe pain | 0 | | 3 | 10 | 12 | 40 | 0 | 0 | 1 | 3.33 | 16 | 53.3 |

Table 2: Frequency and percentage distribution of pregnant women in first stage of labor according to the level of pain in experimental group and control group after intervention.

n=60

| S. No. | Level of pain | Experimental group n=30 | | | | | | Control group n=30 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3-4cm Cervical dilatation | | 5-7cm Cervical dilatation | | 8-10cm Cervical dilatation | | 3-4cm Cervical dilatation | | 5-7cm Cervical dilatation | | 8-10cm Cervical dilatation | |
| | | F | % | F | % | F | % | f | % | f | % | f | % |
| 1. | Mild pain | 30 | 100 | 28 | 93.3 | 21 | 70 | 27 | 90 | 3 | 10 | 0 | 0 |
| 2. | Moderate pain | 0 | 0 | 2 | 6.6 | 9 | 30 | 3 | 10 | 26 | 86.6 | 14 | 46.6 |
| 3. | Severe pain | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3.33 | 16 | 53.3 |

Table 3: Comparison between the Pre-test Pain Scores of women during First Stage of Labor in the Experimental and Control Group

n=60

| Group | n | Mean | S.D. | 't'value | p-value |
|---|---|---|---|---|---|

| Experimental group | 30 | 14.63   ±   2.79 | 0.08 | 0.46 |
|---|---|---|---|---|
| Control group | 30 | 14.7     ±    3.14 | | |

Table 3 reveals that mean and standard deviation of experimental group is 14.63 ±2.79. Reveals that mean and standard deviation of control group is 14.7 ± 3.14. The t-value is 0.08 and p-value is 0.46. t-value is 0.08 and p-value is 0.46.

Table 7: Comparison between the Post-Test Pain Scores of women during First Stage of Labor in the Experimental and Control Group

n=60

| Group | Mean | S.D. | 't'value | p-value |
|---|---|---|---|---|
| Experimental group | 14.63   ± | 2.79 | 11.98 | <0.00001 |
| Control group | 14.7     ± | 3.14 | | |

**P<0.05= (significant)\***

Table 7 reveals that mean and standard deviation of post-test pain score is 14.63 ± 2.79 in experimental group and mean and standard deviation of post-test in control group is 14.7 ± 3.14. The t-value is 11.98 and p-value is <0.00001.

The post test scores regarding back massage was not associated with demographic variables such as age, family income, Education, occupation, Religion, Type of family, Gravida, Period of gestation, Any history of abortion chi square were not found statistically significant at 0.05 level of significance.

**Discussion:**

To assess the level of pain before back massage among pregnant women in first stage of labor pain in both experimental & without back massage in Control group. Before back massage pain score in experimental group 22(73.3%) women have mild pain, 8(26.6%) women have moderate pain Pre-test pain score in control group 27(90%) women have mild pain, 3(10%) women have moderate pain. In congurence with these findings **Premila.E**, Study to assess the effectiveness of back massage with olive oil on pain in first stage of labour among primigravida mothers. During pretest in experimental group majority 60% of mothers having moderate level of pain .whereas during post-test that is after application of olive oil majority around 60% mothers having mild pain in experimental group. Over all mean score of pre-test was 7.4, SD 1.875, mean percentage 37%, and post-test mean sore is 3.55 and SD 1.395, mean percentage 17.75%. Post-test SD was reduced to 1.395; this proved that the olive oil massage is effective to reduce the labor pain during first stage.

To assess the level of pain after back massage among pregnant women in first stage of labor in experimental group and without back massage in control group. After back massage pain score in experimental group all women have mild pain, during 3-4cm cervical dilatation. 96.6% women have mild pain, 6.6% women have moderate pain and no women have severe pain during 5-7cm cervical dilatation. 70% women have mild pain, 30% women have moderate pain and no women have severe pain during 8-10cm cervical dilatation. Post-test pain score, in control group, 90% women have mild pain, 10% women have moderate pain and no women have severe pain during 3-4cm cervical dilatation. 10% women have mild pain, 86.6% women have moderate pain and 3.33% women have severe pain during 5-7cm cervical dilatation. No women have mild pain, 46.6% women have moderate pain and 53.3% women have severe pain during 8-10cm cervical dilatation. In congruence with these findings **Erdogan U S 2017,** Effects of Low Back Massage on Perceived Birth Pain and Satisfaction The first mean Visual Analogue Scale` score was 5.2 ± 0.9 and 7.3 ± 1.3 for massage and control groups, respectively. Second VAS score was found as 6.6 ± 1.6 in massage group and 8.8 ± 1.0 in control group. The third VAS score was significantly higher in the control group than massage group during third evaluation (9.2 ± 2.4 vs 6.7 ± 2.7) (p<0.05). The mean duration of second stage was 24.6 ± 12.7 minutes in massage group and 31.7 ± 20.9 minutes in control group (p>0.05). The mean scores of satisfaction about delivery were found as 8.8±0.7 in massage group and 6.9±0.8 in control group (p<0.05).

To compare the level of pain in experimental group after the back massage and without back massage in control group. After post-test mean and standard deviation of pre-test pain score is 14.63 & 2.79 and mean and standard deviation of post-test is 5.7 &2.65. The t-value is 12.68 and p-value is <0.00001. In congurence with these findings **Memchoubi K 2016**, Effectiveness of Back Massage in the First Stage of Labour among women admitted in the Selected Hospital. Observation pain scale shows, the mean of paired observations decreased from 0.4667 on first and second observation to .1333 on second and third observation in experimental group. The difference is significant at p less than 0.05 on observation indicating that back massage was effective in reducing the back pain.

In congruence with these findings of **Sethi D 2016,** study revealed that the pre-test mean score was 5.83 and post-test mean score was 3.75 which was found statistically highly significant at p<0.01 level. Age, education, mother's occupation, period of gestation and any history of abortion had no significant relationship with pain, and gravida had statistically

significant relationship with pain. Back massage had impact on pain level. Therefore it was concluded that back massage was effective to reduce the level of pain.

**Conclusion:**

Pain in labor is a nearly universal experience for child bearing women. Labor pain is a challenging issue for nurses designing intervention protocols. Back massage has a significant effect in reducing pain during the labour pain among pregnant women.

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