

A comparative study to assess the effectiveness of sacral massage versus hot application in sacral area for pain during active first stage of labour among primi mothers



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INTRODUCTION

Pregnancy is a special event it is an important aspect of women's life and it is a journey in which the mother along with her fetus has to travel towards the ultimate destiny of safety. It is a time of great hope and joyful anticipation.

Labour is a wondrous act of nature and unique to every child bearing women. Labour is likely the hardest work women will endure in her lifetime, but it also holds all the beauty magic and power of life. The time of labour and child birth though short in comparison with the length of pregnancy, is the most dramatic and significant period for the expectant women.

Most pain during childbirth results from normal physiologic events. If nurses understand the nature and effects of pain during the labour process, they will be better prepared to provide supportive care, physical comfort includes offering a variety of non-pharmacologic and pharmacologic intervention. Among the non pharmacologic methods of pain relief massage, acupuncture and hot application are effective techniques for management of labour pain.

Objectives of the study

- ✓ To assess the existing level of pain perception during active first stage of labour among primi mothers in Group A and Group B.
- ✓ To assess the effectiveness of sacral massage on level of pain perception during active first stage of labour among primi mothers in Group A.
- ✓ To assess the effectiveness of hot application on level of pain perception during active first stage of labour among primi mothers in Group B.
- ✓ To compare the effectiveness of sacral massage and hot application on level of pain perception during active first stage of labour among primi mothers.

Hypothesis:H1: There is a significant reduction in the intensity of pain experienced by the mothers during active

first stage of labour with sacral massage and hot application.

H2: There is a significant difference in the effectiveness of sacral massage and hot application in sacral area for reduction of pain during active first stage of labour.

METHODOLOGY

- ✓ *Research approach-* Quantitative approach
- ✓ *Research design:* True experimental pretest posttest design
- ✓ *Setting of the study:* The study was conducted in labour room of Rajarajeswari Medical Collage and Hospital, Bangalore
- ✓ *Population:* Primi mothers in the active first stage of labour admitted at Rajarajeswari Medical College and Hospital.
- ✓ *Sampling technique:* Simple random sampling technique.
- ✓ *Sample size:* 60 primi gravida mothers

Variables

- ✓ *Independent variable:* sacral massage and hot application in sacral area .
- ✓ *Dependent variable:* labour pain.

Sampling criteria

a) Inclusion Criteria

- ✓ Primi mothers admitted with labour pain during active first stage (cervical dilatation 3-7 cm) of labour.
- ✓ Mothers who is willing to participate in the study .
- ✓ Mothers who are available during the time of the study.

b) Exclusion Criteria

- ✓ Multi gravida mothers
- ✓ Mothers who are in latent and transitional phase of labour.
- ✓ Mothers who receive epidural analgesia.
- ✓ Pregnant women who are with medical (DM, epilepsy, Cardiac diseases, respiratory diseases etc) and obstetric (APH, gestational DM etc) complications.

Data collection instruments: In this study, the data collection instrument was combined numerical categorical pain scale. It is a 10 point scale with '0'- no pain at one end and '10'- excruciating pain on the other end.

Description of the tool The tool has two parts :

Part I: Demographic and clinical data which contain 8 items for obtaining baseline information about primi mothers in active first stage of labour.

Part II: Assessment of effectiveness of sacral massage and hot application by using combined numerical categorical pain scale. This is divided into section A and section B

Section A: assessment of effectiveness of sacral massage for labour pain for group A

Section B: assessment of effectiveness of hot application for labour pain for group B

The combined numerical categorical pain scale is a '10' point scale. The scale is scored from '0' at one end and '10' on the other end. Here '0' score indicates 'NO PAIN' and 10 score indicates 'EXCRUCIATING PAIN'

Criteria for grading of pain scale score

1-3 = mild pain, 4-6 = moderate pain, 7-8 = severe pain and 9-10 = excruciating pain

Data collection process

The primi mothers in the active first stage of labour were selected to sacral massage and hot application group by simple random sampling. The pretest pain score was assessed by using the combined numerical categorical pain scale before sacral massage and hot application and it was recorded as Q1. In the sacral massage group, (Group A) massage was given in a circular manner in the sacral area by using palm for 15 minutes. Immediately after intervention intensity of pain perception was assessed by using the combined numerical categorical pain scale and it was recorded as Q2. In the hot application group (Group B) the hot application was given to the sacral area with hot water bag at a temperature of 48°C for 15 minutes. Immediately after the intervention intensity of pain perception was assessed by combined numerical categorical pain scale and it was recorded as Q2

Plan for data analysis

The data obtained would be analyzed using both descriptive and inferential statistics based on the objectives and hypothesis of the study.

RESULTS

The first objective was to assess the existing level of pain perception during active first stage of labour among primi mothers in Group A and Group B.

The existing level of pain perception before sacral massage revealed that 72% of respondents from sacral massage group and 64% of respondents from hot application group experienced excruciating pain (pain scale score 9-10) and 28% of respondents from sacral massage group and 36% of respondents from hot application group experienced severe pain (pain scale score 7-8) and no respondents were experienced mild (pain scale score 1-3) and moderate pain (pain scale score 4-6) in both group.

The second objective was to assess the effectiveness of sacral massage on level of pain perception during active first stage of labour among primi mothers in Group A.

The level of pain perception after sacral massage revealed that 12% of respondents experienced excruciating pain (pain scale score 9-10), 64% of

respondents experienced severe pain (pain scale score 7-8), 24% respondents were experienced moderate pain (pain scale score 4-6) and no one experienced mild pain. The findings of the study showed that in the sacral massage group the mean intensity level of posttest pain scores was 2.88 and SD was 0.63. So, it is evident that mean post-test intensity level of pain score of primi mothers were significantly lesser than their mean pre-test intensity level of pain score. ' $t_{24} = 6.66$ ' is greater than the table value at $P < .01$ level. Hence the research hypothesis was accepted. The results showed that the sacral massage was effective in reducing labour pain during active first stage of labour.

The third objective was to assess the effectiveness of hot application on level of pain perception during active first stage of labour among primi mothers in Group B.

The level of pain perception after hot application revealed that no respondents experienced excruciating pain (pain scale score 9-10), 32% of respondents experienced severe pain (pain scale score 7-8), 64% respondents were experienced moderate pain (pain scale score 4 - 6) and 4% of respondents experienced mild pain (pain scale score 1 - 3). The findings of the study showed that in the hot application group post-test mean was 2.88 and SD was 0.489. So, it is evident that mean post-test intensity level of pain score of primi mothers were significantly lesser than their mean pre-test intensity level of pain score ' $t_{24} = 2.49$ ' is greater than the table value at $P < .01$ level. Hence the research hypothesis was accepted. The results showed that hot application in sacral area was effective in reducing labour pain during active first stage of labour.

The fourth objective was to compare of the effectiveness on Group A and Group B on level of pain perception during active first stage of labour among primi mothers.

The findings of the study showed that the mean post-test of sacral massage group i.e., {Group-A} were 2.88 was higher than the mean post-test score of hot application group {Group-B} were 2.28. It showed that the post test pain perception score is more for sacral massage group comparing to hot application group. Since the computed ' t ' value ' $t(48) = 3.75$ ' was greater than the table value ' $t(48) = 1.64$ ' at .05 level, it inferred that there is a highly significant differences between the post test scores of both the groups. The result revealed that hot application was more effective than sacral massage for reducing labour pain during active first stage of labour. The null hypothesis was rejected and research hypothesis was accepted.

Paired 't' test showing the significant difference between the pre-test and post-test of Group - A

subjects (Sacral massage)

Sl. No.	Sacral massage	Sample size	Mean	SD	t' Value	p' Value
01.	Pre - test	25	3.72	0.45	6.66	.01
02.	Post - test	25	2.88	0.63		

Paired 't' test showing the significant difference between the pre-test and post-test of Group - B subjects (Hot application)

Sl. No	Hot Application	Sample Size	Mean	SD	t' Value	p' Value
01	Pre - test	25	3.64	0.48	2.49	.01
02	Post - test	25	2.88	0.489		

Independent 't' test showing the significance of difference between pain level in the sacral massage and hot application subjects

$$N = 25 + 25 = 50$$

CONCLUSION

Group	Mean	Mean differences	SD differences	df	t' Value
Group A Sacral Massage	2.88	0.66		48	3.75
Group B Hot application	2.28				

This study revealed that sacral massage and hot application in sacral area during active first stage of labour were effective interventions for reducing labour pain. Among this hot application was more effective than sacral massage for reducing labour pain during active first stage of labour.

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