

**PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF WARM
COMPRESS ON LUMBAR REGION DURING FIRST STAGE OF LABOUR
AMONG PRIMI PARTURIENT MOTHERS IN LABOUR ROOM OF SELECTED
HOSPITALS AT AMRAVATI**

Abstract

To assess the level of pain in primi parturient mothers during the first stage of labour. To assess the effectiveness of warm compress on lumbar region. To determine the association between labour pain and selected demographic variables. Post-test pain score will be lesser than pre-test pain score at 0.05 level of significance. The research approach selected was quantitative in nature and research design was Pre experimental pre-test post-test design. Sampling was done using purposive sampling using 60 Primi parturient mothers who are in first stage of labour. The study was conducted in Dayasagar Hospital, Amravati. Pre-test was conducted among primi parturient mothers who meets the inclusion criteria using numerical pain scale to assess pain scores. Warm compress on lumbar region is administered for 15 minutes at half an hour interval for four hours in first stage of labour. Post-test pain scores are assessed using numerical pain scale. Present study revealed that in In control group, in post-test 1, 53.3% of the primigravida mothers had moderate pain (score 4-6) and 46.6% of them had severe pain (score 7-10). In post-test 2, 36.6% had moderate pain (score 4-6) and 63.3% had severe pain (7-10) and post-test 3, 13.3% had moderate pain (4-6) and 86.6% had severe pain, (score 7-10). In experimental group, in post-test 1, 70% had moderate pain (score 4-6) and 30% had severe pain (score 7-10). In post-test 2, 66.6% had moderate pain and 33.3% had severe pain. In post-test 3, 56.6% had moderate pain and 43.3% had severe pain. Therefore it is concluded that warm compress was effective to reduce the level of pain.

Keywords: Warm compress, Effectiveness, Lumbar region, First stage of labour, Primi parturient mothers.

INTRODUCTION

Pain is a universal unpleasant, sensory and emotional experience which is highly subjective in nature. Normally labour pain in primi parturient mothers is excruciating, usually they cry out for help when the intensity increases. To relieve this pain there are many pharmacological and Non-pharmacological measures. But these pharmacological measures may cause some adverse effects. So, many women in labour would like to keep drug use to minimum level. Pain is a highly horrible and very personal sensation that cannot be shared with others. No two people experience pain in exactly the same way. Among pains, the pain of child birth is a time honoured and inevitable part of the human existence. Labour pain is a fluctuating cycle

pain, appearing in waves, radiating and then subsiding in turn. The causes of labour pain are uterine contractions and dilatation of cervix which causes unbearable pain in mothers. The obstetricians and midwives are the health care providers who need to provide current maternity services to manage a woman who is in labour. Motherhood is a great responsibility and it is woman's highest crown of honour. Child birth is said to be highly joyful experience [1] and a universally celebrated event. Child birth however fulfilling is a painful experience for the majority of women [2, 3] and analgesia is regularly required for relieving pain [4]. In non-human primates, labour is thought to be relatively painless, and of short duration, usually unassisted, although changes in behaviour in the days prior to delivery may suggest some degree of labour pains.⁵ Pain is a progressive and highly personal experience that may be imperceptible to others, while comparing all parts of the person's life [6]. The pain of child birth results from hypoxia of uterine muscle, dilation and stretching of the cervix, pressure and pulling on adjacent organs and pressure from the presenting part on the vagina and perineum during birth. The foetal size and position influence length of labour as well as pain. Vaginal examinations and use of oxytocin increase the strength of contractions [7]. A woman's expectations, level of fatigue, anxiety, availability and actions of a support person also affect her perception of pain [8].

A study was conducted to evaluate the effect of relaxation technique on maternal outcome in a selected group of tenatal primi parturient mothers in selected hospitals in West Bengal. The subjects were selected by using simple random sampling method. The sample size obtained for the study was 67 primigravida mothers, in that 32 were in experimental group and 35 in control group. Experimental group mothers were taught the Lamaze method of relaxation technique and breathing exercises. The findings of the study showed that the behaviour score of mothers in experimental group was higher and the duration of labour in control group was higher, and the frequency of normal vaginal delivery was significantly higher in experimental group and frequency of occurrence of maternal complications was significantly lower in experimental group than that of control group. Frequency of use of pain relieving drugs was found to be significantly higher in control group as compared to experimental group mothers. Mean apgar score at birth in the newborn of the experimental group was found to be significantly higher than those of control group, frequency of occurrence of birth injury was not found to be statistically significant in the newborn of mother in both experimental and control groups [9].

Research approach

In this study, a quantitative research approach was adopted in order to accomplish the main

objectives of assessing the Warm Compress on Lumbar Region during First Stage of Labour among Primi Parturient Mothers

Research design

Pre-experimental, pre-testpost-test research design was adopted for this study to achieve the objectives of the study.

Setting

The study was conducted in Dayasagar Hospital, Amravati.

Population

The population consists of primi parturient mothers who are in active phase of first stage of labour.

Sample

The sample size consisted of 60 primi parturient mothers who were in active phase of first stage of labour from which 30 were assigned to the experimental group and 30 were assigned to the control group.

Sampling Technique

In this study purposive sampling method was used to select the subjects. Primi parturient mothers who were in active phase of first stage of labour were selected based on the inclusion criteria. The subjects were randomly assigned to the experimental and control group.

Sampling criteria

Inclusion criteria

Primi parturient mothers who are

- 1) In first stage of labour
- 2) With term pregnancy.
- 3) With singleton pregnancy.
- 4) Willing to participate in the study.

Exclusion Criteria

Primi parturient mothers

- 1) Who are on analgesics and sedatives
- 2) Whose cervical dilatation > 6cms on admission.

Data collection instrument

The labour pain and anxiety was assessed with following instruments:

Demographic variables.

Numerical pain intensity scale was the tool used to assess the level of pain.

Description of the tool

Tool I Demographic data

It consists of demographic variables of the primi parturient mothers such as age, education and occupation.

Tool II: Numerical pain intensity scale

Numerical pain scale is a straight line which has points, ranging from 0 to 10. Point 0 indicates no pain and point 10 indicates worst possible pain. The subjects in the study will be given the scale and will be asked to mark to the point at which they feel pain.

Data collection method:

After securing written permission from the respective authority and based on criteria informed consent was taken, pre-test was conducted among primi parturient mothers who meets the inclusion criteria using numerical pain scale to assess pain scores. Warm compress administered for 15 minutes at half an hour interval for four hours in first stage of labour. Post-test pain scores was assessed using numerical pain scale.

Section1: Description of the Demographic data of the subjects.

Table 1: Description of samples (primigravida mothers) based on their personal characteristics in terms of frequency and percentages n=30+30

Demographic variable	Control		Experimental	
	Frequency	%	Frequency	%
Age				
18 – 22 years	19	63.3%	21	70%
23 – 26 years	10	33.3%	9	30%
27 – 30 years	1	3.3%	0	0.0%
Education				
Illiterate	5	16.6%	0	0.0%
Primary	14	46.6%	18	60.0%
Secondary	10	33.3%	10	33.3%
Graduate	1	3.3%	2	6.7%
Patient's occupation				
Home maker	25	83.3%	21	70%
Others	5	16.6%	9	30%

Table 1 shows In control group, majority of the primi gravida mothers (63.3%) are under 18 –

22 years. 33.3% of them are under 23 – 26years and 3.3% of them are under 27 – 30 years. In experimental group, majority of the participant (70%) are under 18- 22years, and 30% are under 23 – 26 years. In control group, 13.3% of them were illiterate, 50% of them had primary education, 33.3% of them had secondary education and 3.3% of them had graduation. In experimental group, 60% of them had primary education, 33.3% of them had secondary education and 6.7% of them had graduation. In control group 83.3% of them were home makers and 16.6% of them had some other occupation. In experimental group 70% of them were home makers and 30% of them had other occupation.

Table 2: The level of labour pain (Numerical scale) among the primi parturient mothers during the first stage of labour in both experimental & control group n= 30+30

Test	Level of pain	Experimental		Control	
		Freq	%	Freq	%
Pre-test	No pain (Score 0)	0	0.0%	0	0.0%
	Mild pain (Score 1- 3)	0	0.0%	0	0.0%
	Moderate pain (Score 4-6)	18	60%	22	73.3 %
	Severe pain (Score 7- 10)	12	40 %	8	26.6 %

In experimental group, 60% had moderate pain (score 4-6) and 40% had severe pain (score 7- 10)In control group, 73.3% of the primigravida mothers had moderate pain (score 4-6) and 26.6% of them had severe pain (score 7-10).

Table 3: Level of labour pain (based on numerical scale) among primi parturient mothers during first stage of labour in both experimental and control group, after administering lumbar warm compress in experimental group n=30+30

Test	Level of labour pain	Control		Experimental	
		Freq	%	Freq	%
Post test 1	No labour pain (Score 0)	0	0.0%	0	0.0%
	Mild labour pain (Score 1-3)	0	0.0%	0	0.0%
	Moderate labour pain (Score 4-6)	16	53.3%	21	70%
	Severe labour pain (Score 7- 10)	14	46.6%	9	30%
Post test 2	No labour pain (Score 0)	0	0.0%	0	0.0%
	Mild labour pain (Score 1-3)	0	0.0%	0	0.0%
	Moderate labour pain (Score 4-6)	11	36.6%	20	66.6%

	Severe labour pain (Score 7-10)	19	63.3%	10	33.3%
Post test 3	No labour pain (Score 0)	0	0.0%	0	0.0%
	Mild labour pain (Score 1-3)	0	0.0%	0	0.0%
	Moderate labour pain (Score 4-6)	4	13.3%	17	56.6%
	Severe labour pain (Score 7-10)	26	86.6%	13	43.3%

Table 4 shows in control group, in post-test 1, 53.3% of the primigravida mothers had moderate labour pain (score 4-6) and 46.6% of them had severe labour pain (score 7-10). In post-test 2, 36.6% had moderate labour pain (score 4-6) and 63.3% had severe labour pain (7-10) and post-test 3, 13.3% had moderate labour pain (4-6) and 86.6% had severe labour pain, (score 7-10). In experimental group, in post-test 1, 70% had moderate labour pain (score 4-6) and 30% had severe labour pain (score 7-10). In post-test 2, 66.6% had moderate labour pain and 33.3% had severe labour pain. In post-test 3, 56.6% had moderate labour pain and 43.3% had severe labour pain.

Table no. 5: Paired t-test for effectiveness of Lumbar warm compress on the level of labour pain (numerical labour pain scale) among women during first stage of labour.

n=30+ 30

Group		Mean	SD	T	Df	p-value
Control group	Pre test	6.2	1.26			
	Post test 1	6.5	1.0	0.7	29	1.000
	Post test 2	7.7	1.48	4.7	29	1.000
	Post test 3	7.8	1.09	5.7	29	1.000
Experimental group	Pre test	6.4	1.58			
	Post test 1	6.2	0.83	1.55	29	0.04
	Post test 2	6.4	0.94	0.61	29	0.22
	Post test 3	6.6	1.14	0.62	29	0.72

Table 5 shows in control group, researcher applied paired t-test for comparison of pre-test labour pain score (based on numerical labour pain scale) with posttest 1, post-test 2 and post-test 3 labour pain scores (based on numerical labour pain scale). In control group, average numerical labour pain score in pre-test was 6.2 which increased to 6.5, 7.7 and then 7.8 in

posttest1 post-test 2 and post-test 3 respectively. Corresponding t values were 0.7, 4.7 and 5.7 at post-test 1, post-test 2 and post-test 3 respectively. Corresponding p-values were 1.000. This indicates that the level of labour pain increases. In experimental group, researcher applied paired t-test for comparison of pre-test labour pain score (based on numerical labour pain scale) with posttest1, posttest2 and posttest3 labour pain scores (based on numerical labour pain scale). In experimental group, average numerical labour pain score in pre-test was 6.4 which increases to 6.2, 6.4 and then 6.6 in posttest1 posttest2 and posttest3 respectively. Corresponding t values were 1.55, 0.61 and 0.62 at posttest1, posttest2 and posttest3 respectively. Corresponding p-values were 0.04, 0.22 and 0.72 The p- value of post-test 1 in experimental group is less than 0.05 level of significance. Hence H₀ is rejected. As p-value of experimental group in post 2 &3 is lesser than the p-value of control group post-test 2 & 3 which shows that the rate of increase of level of labour pain is slower in experimental group as compare to control group. This shows that the warm compress on lumbar region is effective in reducing the level of labour pain during first stage of labour.

CONCLUSION

Warm compress on lumbar region helps controlling the labour pain among primi parturient mothers during first stage of labour in experimental group as compare to control group. The conclusion drawn from the findings of the study are as follows. 1) Statistical findings shows that the labour pain is increased in both control and experimental group but the severity of increasing labour pain is slower and control in experimental group as compare to control group. 2) Lumbar warm compress is cost effective non-pharmacological methods and can be implemented in any setting of labour room.

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