



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

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The goal of this study was to determine the intensity of pain experienced by primiparturient women during the first stage of labour. To see how beneficial a warm compress is on the lumbar area. To see if there's a link between labour discomfort and certain demographic factors. At the 0.05 level of significance, the post-test pain score will be lower than the pre-test pain score. The research method chosen was quantitative, and the study design was pre-experimental, pre-test, and post-test. Purposive sampling was used to collect data from 60 primiparturient moms in the early stages of labour. The research was carried out at Amravati's Dayasagar Hospital. A pre-test was done using a numerical pain scale to determine pain levels among primiparturient moms who met the inclusion criteria. In the initial stage of labour, a warm compress on the lumbar area is applied for 15 minutes every half hour for four hours. The numerical pain scale is used to measure post-test pain levels. In the current study, 53.3 percent of primigravida moms in the control group reported moderate pain (scoring 4-6) and 46.6 percent had severe pain in post-test 1. (score 7-10). 36.6 percent had moderate pain (scoring 4-6) and 63.3 percent had severe pain (7-10) in post-test 2, while 13.3 percent had moderate pain (4-6) and 86.6 percent had severe pain in post-test 3. (score 7-10). In post-test 1, 70% of the experimental group experienced moderate pain (scoring 4-6) and

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30% had severe pain (score 7-10). In post-test 2, 66.6 percent of participants reported moderate pain, while 33.3 percent reported severe pain. In post-test 3, 56.6 percent of participants reported moderate pain, while 43.3 percent reported severe pain. As a result, it may be stated that using a warm compress to relieve pain was successful.

Keywords: Warm compress; effectiveness; Lumbar region; first stage of labour; PRIM1 parturient mothers.

1. INTRODUCTION

Pain is a universally unpleasant, sensory, and emotional sensation that is very subjective. In most cases, labour pain in primiparturient moms is awful, and they scream out for aid as it becomes more intense. There are several pharmacological and non-pharmacological options for pain relief. However, these pharmaceutical interventions may have side effects. As a result, many pregnant women want to consume as little drugs as possible. Pain is a terrifying and intensely intimate experience that cannot be shared with others. No two people are affected by pain in the same way. The agony of childbirth is one of the most well-known and unavoidable aspects of human life. Labor pain is a cyclical agony that comes in waves, radiates, and then subsides. Uterine contractions and cervical dilatation are the causes of labour pain, which can be terrible for moms. Obstetricians and midwives are health-care practitioners who must give current maternity services in order to manage a woman in labour. Motherhood is a huge duty and the ultimate honour bestowed upon a woman. The birth of a child is reported to be a profoundly joyous experience [1] and an occasion that is widely celebrated. For the majority of women, childbirth is a difficult process [2,3], and analgesia is frequently necessary to relieve discomfort [4]. Labor in nonhuman primates is assumed to be generally painless, brief, and largely unsupported, however behavioural changes in the days leading up to birth may indicate some degree of labour discomfort [5]. When comparing all aspects of a person's life, pain is a gradual and extremely personal sensation that may be unnoticeable to others [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].

1.1 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.

2. METHODOLOGY

2.1 Research Design

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

2.2 Setting

The study was conducted in Dayasagar Hospital, Amravati.

2.3 Population

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

2.4 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.

2.5 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.

2.6 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.

2.7 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.

2.8 data Collection Method

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% |

3. RESULTS AND DISCUSSION

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.

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 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 (score4-6) 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 (score4-6) 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 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 % |

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. 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 4 shows in control group, researcher applied paired t-test for comparison of pre-test labour pain score (based on numerical labour pain scale) with posttest1, 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.

4. 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.

CONSENT AND ETHICAL APPROVAL

After securing written permission from the respective authority and based on criteria informed consent was taken from respondent's

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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