

Effectiveness of Back Massage vs Breathing Exercises on Labour Pain and Anxiety among Primigravida Mothers During First Stage of Labour in Pravara Rural Hospital, Loni (Bk)

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Abstract

Background: Pregnancy is a special event. The labour & birth process is an exciting, anxiety provoking situation for the woman & her family. Each woman comes into labour room with her own set of expectation, fear, preparation, pain threshold, personality & behavioural make up & ways of experiencing what is happening to her, which has to be managed effectively. The pain involved in labour & birth can sometimes dominate a pregnant woman or a couple throughout child, particularly as the baby's due date approaches. The time of labour & birth, though short, in comparison with the length of pregnancy, is the most dramatic & significant period of pregnancy for the expectant woman.

Method: Quasi experimental study, pre and post-test design with quantitative approach was used. Setting of the study was in Pravara rural hospital, Loni (Bk). Those primigravida women who are above 19 years of age and fulfilling the inclusion criteria and were available during study period were the samples for this present study. Sample size was total 60 (30 of them to study group I and 30 of them to study group II). Purposive sampling technique was used for the study. Structured questionnaire was used to assess demographic and obstetrical variables, labor pain of mother was assessed by visual analogue scale and anxiety of the mother was assessed by the state –Trait Anxiety inventory scale.

Results: Analysis showed that comparison of mean and SD of pretest level and posttest level of labour pain in study group I & II was very highly significant at $P=0.001$ level and comparison of mean and SD of pretest level and posttest level of anxiety in study group I & II was very highly significant at $P=0.001$ level. The result depicted that, there was statistical significance found in labour pain of primigravida mothers in study group I & II at $P=0.01$ level. Regarding anxiety of primigravida mothers in study group I & II, there was significant difference found at $P=0.01$ level.

Conclusion: Labour is very sensitive phase of a women, fear and anxiety may be high in primi mothers during process of labour. Pharmacological and non-pharmacological method of pain relief are complementary procedures which help a woman suffer less anxiety and pain during childbirth. Thus this study conclude that back massage and breathing exercises provided more persistent pain relief and reduce anxiety. It is effective,

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non-pharmacologic, accessible, cost effective and non-invasive technique to help reduce the intensity of labour pain and anxiety.

Keywords: Assess, effectiveness, back massage, breathing exercises, labor Pain, anxiety, primigravida, first stage of labor.

Introduction

“The aim of the wise is not to secure pleasure, But to avoid pain”.

Labour pain is a universal and unique experience for childbearing women but threshold of this pain varies between individuals. For some it resembles menstrual cramps. Pain intensity varies widely and generally increases as labour progresses. Pain experienced during labour is probably the most painful event in the lives of the women.¹

Labour pain is often described as the worst pain in a women's life, but the experience is highly variable. Although many factors have linked to the labour pain, it is difficult to assess the individual effects of these factors because labour is a dynamic process and pain intensity changes over the course of labour.²

Lamaze method is also termed as psycho prophylactic method that means preventing labour pain (prophylaxis) by the use of mind (psyche). The primigravida mother will learn activities and breathing pattern that can be applied to control pain sensation during uterine contractions. Lamaze method helps the pregnant woman to keep her calm during labour and save her energy for the delivery time.³ Method like conditioned reflexes, imagery, conscious relaxations, visualization, hydrotherapy, and massage, hot and cold applications, breathing exercises, effleurage, body movements and position changes are taught to the mother. The goal of the Lamaze method is to cut short the labour stages wisely, by making the mother to understand what is happening, the physiological changes and thereby reducing the intensity and the perception of pain.⁴

Statement of Problem: Effectiveness of back massage vs breathing exercises on labour pain and anxiety among primigravida mothers during first stage of labour in Pravara rural hospital, Loni (Bk)

Objectives:

1. To assess and compare the effectiveness of back massage vs breathing exercises on labour pain and anxiety among primigravida mothers during first stage of labour
2. To correlate the labour pain and anxiety of primigravida mothers with back massage vs breathing exercises during first stage of labor in the both groups

Materials and Method

Research design and approach: Quasi experimental study, pre and post-test design with quantitative approach was used.

Setting of the study: Maternity Ward and labor room situated at ground floor at Pravara Rural Hospital Loni Bk. Labor waiting 10 beds are available as well as 6 tables for birthing process.

Population: All Primigravid women admitted in labor room was the population for this study.

Samples: Those primigravida women who are above 19 years of age and fulfilling the inclusion criteria and were available during study period were the samples for this present study.

Sample size: Sample size was total 60(30 in study group I and 30 in study group II) (calculated through Open episoft ware, version 3,open source calculator).

Sampling technique: Purposive sampling technique was used for the study.

Inclusion criteria: The primigravida women who were:

- Ready to participate in the study
- Having single vertex fetus in anterior position
- With gestational age 38-42 weeks, above 19 years of age
- Having cervical dilatation 4cm and above & who are in first stage of labour.

Exclusion Criteria: The primigravida women who were:

- Having high risk pregnancy such as PIH,APH, Habitual abortion, ectopic pregnancy
- Having medical complications like haematological diseases, thyroid diseases, DM, HTN also obstetrical complications like CPD, obstructed labor, meconium aspiration, fetal distress etc.
- Primigravida mothers getting analgesics for pain relief in 1st stage of labour or any other non-pharmacological pain relief measures.

Data Collection Procedure: Ethical approval from the Institutional ethics committee of PIMS-DU, Loni (BK) was obtained (Reg. No: PIMS/DR/CON/2020/326).Permission was obtained from medical

superintendent, head of department of obstetrics and gynecology Pravara rural hospital, Loni All participants was made comfortable and relaxed. Introduction of the investigator was given to participants. Explanations regarding study and its objectives was given to them. Before data collection informed consent was obtained from study subjects. The investigator established good rapport with participants before giving nursing interventions and assured confidentiality and pretest was conducted by interview method. For study group I, back massage was given and study group II, breathing exercises was given every two hourly. Meanwhile, the progress of the labour was assessed by doing vaginal examination in every four hourly. Labor Pain was marked with the help of visual analogue pain scale and anxiety was assessed by State-Trait Anxiety Inventory scale. Posttest was taken by investigator and after data collection all the participants were thanked for their participation and cooperation for the study.

Results

Demographic variables of primigravida mothers in the study group I: The major findings of demographic of primigravida mothers age, 12(40%) were between 19-23yrs, the educational qualification of primigravida mothers 13(43.33%) were higher secondary, occupation 10(33.33%) was agriculture, family income 13(43.44%) were earning less than Rs.10,357 to 15,535. Majority were belongs to joint family 15(50%), and 17(56.67%) were residing in rural areas.

Demographic variables of primigravida mothers in the study group II: The major findings of demographic of primigravida mothers age, 13(43.33%) were between 19-23yrs, the educational qualification of primigravida mothers 14(46.67%) were higher secondary, occupation 10(33.33%) was agriculture, family income 12(40%) were earning less than Rs.10,357 to 15,535. Majority were belongs to joint family 16(53.33%), and 19(63.33%) were residing in rural areas.

Regarding the obstetrical variables of primigravida mothers in the study group I: The major findings of obstetrical variables of primigravida mothers in study group I, the gestational age of primigravida mothers 12(43.33%) of them were in 38-40 weeks, the cervical dilatation of primigravida mothers 24(80%) of them were between 4-5cm of cervical dilatation.

Regarding the obstetrical variables of primigravida mothers in the study group II: The

major findings of obstetrical variables of primigravida mothers in study group II, the gestational age of primigravida mothers 13(40%) of them were in 38- 40 weeks, the cervical dilatation of primigravida mothers 23(76.66%) of them were between 4-5cm of cervical dilatation.

Table 1: Comparison of mean and SD of pretest level and posttest level of labour pain and anxiety among primigravida mothers with back massage in study group I

Variables	Pre-test		Post-test		Paired 't' test
	Mean	SD	Mean	SD	
Labour pain	7.1566	1.644	3.07	2.99	22.20
Anxiety	130.6	6.41	136	9.08	6.933

Analysis showed that comparison of mean and SD of pretest level and posttest level of labour pain in study group I was very highly significant at P=0.001 level and comparison of mean and SD of pretest level and posttest level of anxiety in study group I was very highly significant at P=0.001 level.

Table 2: Comparison of mean and SD of pretest level and posttest level of labour pain and anxiety among primigravida mothers with breathing exercises in study group II

Variables	Pre-test		Post-test		Paired 't' test
	Mean	SD	Mean	SD	
Labour pain	7.28	2.08	4.06	2.99	7.933
Anxiety	131.6	6.47	146.17	10.52	24.42

Analysis showed that comparison of mean and SD of pretest level and posttest level of labour pain in study group II was very highly significant at P=0.001 level and comparison of mean and SD of pretest level and posttest level of anxiety in study group II was very highly significant at P=0.001 level.

Table 3: Comparison of posttest level of mean and SD of labour pain and anxiety of among primigravida mothers with back massage and breathing exercises between study group I & II (n=60)

Variables	Study group I		Study group II		Paired 't' test
	Mean	SD	Mean	SD	
Labour pain	3.07	2.88	4.96	2.65	2.63
Anxiety	136	9.08	149.17	10.52	10.54

The result depicted that, there was statistical significance found in labour pain of primigravida mothers in study group I & II at P=0.01 level. Regarding

anxiety of primigravida mothers in study group I & II, there was significant difference found at P=0.01 level.

Table 4: Correlation of labour pain and anxiety score of primigravida mothers with back massage and breathing exercises between study group I & II (n=60)

	Correlation	Mean ± SD	Correlation coefficient	Interpretation
Study group I	Labour pain vs anxiety	136±3.07	r=0.54 p=0.01**	Moderate correlation
Study group II	Labour pain vs anxiety	149.17±4.96	r=0.43 p=0.01**	Moderate correlation

**Highly significant at ≤ 0.01

The above table suggested that, mean and SD value was 136±3.07 and correlation was $r = 0.54$ which was statistically significant at 0.01 levels. There was a moderate positive correlation found between the labour pain and anxiety of primigravida mothers in study group I. The correlation of posttest of labour pain and anxiety among primigravida mothers in study group II revealed that, mean and SD value was 149.17±4.96 and the correlation was $r = 0.43$ which was statically significant at 0.01 level. There was a moderate positive correlation found between the labour pain and anxiety of primigravida mothers in study group II.

Discussion

Massage therapy helping in pain relief, provides direct physical contact with the parturient, potentiating the effect of relaxation and greatly reducing emotional stress. Several theories explain the mechanism by which massage might relieve pain, such as reduction in cortisol and norepinephrine levels, increasing serotonin levels, stimulation of endorphin release in addition to enhancing circulation with a consequent increase in oxygen transmission to the tissues, and the facilitation of toxin excretion through the lymphatic system.⁵

Chang et al., conducted a study on massage throughout the active phase of labor and detected a gradual increase in pain and anxiety in the control and experimental groups, but in experimental group there were lower pain scores during the three phases, and a lower anxiety score only in the first phase.⁶

This study is supported by Simkin and Bolding, who stated that relaxation and breathing may contribute more to a woman's ability to cope with labor pain than to actually reduce that pain.⁷

Conclusion

Labour is very sensitive phase of a women, fear and anxiety may be high in primi mothers during process of labour. Pharmacological and non-pharmacological method of pain relief are complementary procedures which help a woman suffer less anxiety and pain during childbirth. Thus this study conclude that back massage and breathing exercises provided more persistent pain relief and reduce anxiety. It is effective, non-pharmacologic, accessible, cost effective and non-invasive technique to help reduce the intensity of labour pain and anxiety.

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Conflict of Interest: None

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