EFFECT OF JASMINE OIL MASSAGE ON LABOUR PAIN AMONG PRIMI GRAVIDA MOTHERS

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ABSTRACT
A quasi experimental study was conducted to evaluate the effect of jasmine oil massage on labour pain among primi gravida mothers in a selected hospital at Pathanamthitta district. The objectives of the study were to assess pain perception score of labour pain among primi gravida mothers in experimental and control group, to evaluate the effect of jasmine oil massage in experimental group, to find out the association between pre-test score of labour pain among primi gravida mothers and selected socio demographic variables in experimental and control group. Conceptual framework was based on Ludwig von Bertalanffy General System model (1968). Non-equivalent control group pre-test post-test design was used and 40 mothers were selected by Non-Probability purposive sampling. The tools used for the study were partograph and visual analogue pain scale. In experimental group jasmine oil massage was given for 10 minutes for 3 times at an interval of 30 minutes during active phase of first stage of labour. Paired 't' test was used to compare the pre-test and post-test level of labour pain and unpaired 't' test was used to compare the experimental group and control group level of labour pain. Control group mean difference 2.3 (SD = 0.47) is significantly higher than experimental group mean difference of -1.25 (SD=0.786) with a difference in mean difference of 3.55. The calculated 't' value (17.32) was greater than the table value (2.71) at p<0.01 level of significance at degree of freedom 38. The result also showed that there was a significant association of pre-test level of pain score with duration of marital life (p<0.05) and there was no association with other socio demographic variables. Hence we can conclude that jasmine oil back massage was found effective in reducing pain during active phase of first stage of labour among primi gravida mothers in experimental group.

Keywords: Effect; jasmine oil massage; labour pain; primi gravida mothers.

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INTRODUCTION

“The greatest pain brings greatest pleasure”, this holds perfectly true for labour pains. The tale of pain of labour started from the Garden of Eden. The act of giving birth is the only moment where both pain and pleasure converge at one point of time.¹

Labour pain is one of the most severe pains which has ever evaluated and its fear is one of the reasons women wouldn’t go for natural delivery.² Undoubtedly delivery is a painful experience for all of the women except a few of them. The labour pain results from some physiological-psychological causes. If the woman looks at the pain with a psychological view her feeling toward it would be changed.³

Human body can bear only up to 45 Del (Unit) of pain. But at the time of giving birth, a woman feels up to 57 Del of pain. This is similar to 20 bones getting fractured at the same time.⁴

Nulliparous are more likely to experience severe pain than multiparous women. Pain may be aggravated by anxiety, fear, maternal expectations and mother’s state of preparation for delivery. It increases maternal oxygen consumption, cardiac output, circulating catecholamine level. The rise in catecholamine can cause fetal tachycardia and contractions. The technique used for labour pain reduction should therefore be taken into consideration of maternal wishes and preference, available expertise, supports and staff and facilities.⁵

BACKGROUND OF THE STUDY

Pregnancy is the most beautiful period in a woman’s life. Most of the women give birth without any complications. The birth process starts with the onset of labour, which is usually marked by the beginning of regular uterine contractions. Pregnancy, childbirth and motherhood are times where a woman undergoes vast changes in her body and it can be termed as an entirely new birth for the woman or her rebirth. With the changing times, process of birth has also been modernized with less complication and become more capable of handling any complexities of childbirth. Pregnancy and childbirth are wonderful and remarkable moments in women life.⁶

Childbirth is a special blessing in a woman’s life and she cherishes those moments all through her life. From the time a woman conceives and all through the period of childbirth there are various physical as well as mental changes that take place within her. Childbirth is a natural biological process and therefore pain associated with it is perceived as normal. The nature of pain experienced during labour depends on physical and emotional status of women.⁷

NEED AND SIGNIFICANCE OF THE PROBLEM

Massage is an ancient method used by physicians for more than thousands of years to relieve labour pain but in modern labour rooms no accurate evaluation has been conducted.⁸ Massage is an old technique which does not have any side effect and is widely used in childbirth and can decrease the childbirth pain by reducing the adrenaline and noradrenaline secretion and increasing the endorphins which are natural pain killing substances.⁹ Massage stimulates oxytocin release thus reducing the childbirth duration by increasing the uterine contractions, also decreases stress hormones and neurological excitability.¹⁰

Jasmine oil massage is one of the best non-pharmacological methods. This treatment is safe and free from side effects. It has potential benefits such as decreasing the intensity of pain relieving the muscle spasm, promoting general relaxation and reducing anxiety. Many women feel contraction strongly in their lower back, so back massage is very useful for antenatal mothers during labour time.¹⁰

STATEMENT OF THE PROBLEM

“A study to evaluate the effect of jasmine oil massage on labour pain among primi gravida mothers in a selected hospital at Pathanamthitta district.”

OBJECTIVES
1. To assess pain perception score of labour pain among primi gravida mothers in experimental and control group.
2. To evaluate the effect of jasmine oil massage in experimental group.
3. To find out the association between pre-test score of labour pain among primi gravida mothers and selected socio demographic variables in experimental and control group.

HYPOTHESES

H₁ : There is a significant difference in pain perception score of labour pain among primi gravida mother’s in experimental and control group.

H₂ : There is an association between pretest score of labour pain and selected socio-demographic variables in experimental and control group.

ASSUMPTIONS

• Primigravida mothers perceive more pain during labour than multigravida.
• Severity of labour pain differs from woman to woman.
• Jasmine oil massage may help to reduce perceived labour pain.
VARIABLES
Demographic variables
The socio demographic variables in this study were age, religion, type of family, area of living, educational status, occupational status, type of work, family monthly income, dietary pattern, duration of marital life, age at marriage, present weeks of gestation, number of antenatal visits done during pregnancy, minor disorders mostly experienced during present pregnancy, main type of exercises performed during pregnancy, exercise pattern followed and any abdominal surgeries.

METHODOLOGY
Research approach
Quantitative research approach
Research Design
Non-equivalent control group pre-test post-test design.
POPULATION
Target population
Primigravida mothers
Accessible population
Primigravida mothers in a selected hospital, above 37 weeks of gestation and are admitted in labour room with labour pain score >3 according to visual analogue pain scale.
Sample size : 40
Sampling Technique: Non-Probability purposive sampling technique
Setting: Govt. General Hospital Adoor Pathanamthitta District, Kerala.
TOOLS AND TECHNIQUES
Tool 1: Socio demographic proforma. Technique: Structured interview schedule.
Tool 2 : Partograph.
Technique: Bio-Physiological method
Development of Tool
The sources for the tool construction were:
- Review of literature (Text books, journals, and website).
- Personal consultation with guide, research coordinator, subject experts and experts from Obstetrics and Gynaecological medicine.
- Discussion with colleagues.
Validation of Tool
In order to infer the content validity of the tools, the prepared tool along with the problem statement, objectives, hypotheses and operational definitions were submitted to 11 experts.
Conceptual framework: Ludwig von Bertalanffy (1968)general system theory
Inclusion criteria:
Primigravida mothers those who are:-
- Admitted in a selected hospital.
- in active phase of 1st stage of labour.
- above 37 weeks of gestation and having pain score >3 by visual analogue pain scale.
- willing to participate in the study.
- getting contraction for the duration of 45-60 seconds with 3-5 minutes rest between.
- having cervical dilatation from 3-5cm.
- in the age group of 18-36 years.
- able to understand Malayalam.
Exclusion Criteria
Primigravida mothers those who are:-
- in pre-term labour.
- not in active phase of first stage of labour.
- having any obstetric and medical complications.
- having pain score <3 by visual analogue scale.
Data collection process
Step 1: Prior conducting the study the permission was obtained from the ethical committee of Josco College of Nursing, Edappon, Pandalam. Then NOC (No Objection Certificate) from medical superintendent of Government General Hospital Adoor and the permission letter from DMO (District Medical Officer), Pathanamthitta.
Step 2: The researcher obtained adequate training and certificate for back massage during labour with jasmine oil.

Step 3: Obtain socio demographic data and by using visual analogue pain scale pre-test of 2 samples per day for both the group is done.

Step 4: In control group, post-test is done after 2 hours of pre-test, from 1st day to 12th day for 20 samples.

Step 5: In the experimental group, jasmine oil massage was given for 10 minutes, for 3 times at an interval of 30 minutes. Post-test was done after half an hour of the 3rd massage, from 14th day to 26th day for 20 samples.

Descriptive: Frequency, percentage distribution, Mean percentage and standard deviation.

Inferential: Paired ‘t’, Independent ‘t’ and Chi-square test.

Results
The major findings of the study are presented below.

Section I: Distribution of subjects according to socio demographic variables
In Control group,

- Three fifth (60%) were in the age group of 18-24 years.
- Less than three fourth (70%) were Hindus.
- More than half (55%) belongs to nuclear family.
- Less than three fourth (70%) were residing in Panchayat.
- Half (50%) had diploma,
- More than two third (70%) were housewife.
- Less than two third (65%) were sedentary workers.
- Less than half (45%) had family monthly income of Rs10,001-15,000/.
- A majority (85%) were non-vegetarian.
- A vast majority (90%) of samples had 0-5 years of duration of marital life.
- Three fifth (60%) got married at the age of 20-25 years.
- An equal proportion, half (50%) had 39 weeks of gestation and 40 and above weeks of gestation as well.
- Less than two third (65%) had 7-9 times antenatal visit during pregnancy
- More than half (55%) had nausea and vomiting as minor disorders mostly experienced during present pregnancy.
- A vast majority (90%) had walking as exercise performed during pregnancy.
- A vast majority (90%) had irregular exercise pattern.
- All the samples (100%) had no history of abdominal surgeries.

In Experimental group,

- Less than two third (65%) were in the age group of 18-24 years.
- Less than two third (65%) were Hindu.
- Three fifth (60%) were in Nuclear family.
- A vast majority (90%) were residing in panchayat. Two fifth (40%) had education up to high school more than two third (70%) were housewife.
- Three fifth (60%) were sedentary workers.
- Three fifth (60%) of the samples had family income of Rs 5,001- 10,000.
- All (100%) non-vegetarian.
- A vast majority (90%) of samples had 0-5 years of duration of marital life.
- More than half (55%) of samples got married at the age of 20-25 years.
- Equal proportion of samples half (50%) had 39 weeks of gestation and 40 and weeks of gestation as well.
- An equal proportion of samples less than half (45%) had 7-9 and 10-12 times of antenatal visits.
- More than two third (70%) of samples had nausea vomiting as minor disorders mostly experienced during present pregnancy.
- A vast majority (95%) had walking as exercise performed during pregnancy a vast majority (90%) had irregular exercise pattern.
- All the samples (100%) of samples had no history of abdominal surgeries.

Section II: Distribution of samples based on pre-test and post-test level of labour pain among primi gravida mothers in experimental and control group in a selected hospital at Pathanamthitta district.
Based on pre-test level of labour pain.

- In control group pre-test three fourth (75%) of samples had very severe pain, less than one sixth (15%)
samples had moderate pain, one tenth (10%) of the samples had very severe pain. Based on post-test level of labour pain.

- In control group post-test more than two third (70%) of samples had very severe pain and an equal proportion less than one sixth (15%) of samples had severe pain and worst possible pain and none of the samples were in the level of moderate pain. In experimental group post post-test half (50%) of the samples had moderate pain, less than half (45%) of samples had severe pain and few (5%) of the samples had very severe pain and none of the samples had worst possible pain.

**Section III: Analysis of the effectiveness of jasmine oil massage on labour pain in experimental group in a selected hospital at pathanamthitta district.**

The major findings in this section are:

- The paired t-test was used to compare the pre-test and post-test level of labour pain among primi gravida mothers of control group. The mean pre-test score of labour pain 6.2 (SD=0.83) was significantly lower than mean post-test mean score of labour pain 8.5(SD=0.94) with mean difference of 2.3. The calculated ‘t’ value (-21.87) was less than the table value (2.86) at p<0.01 level of significance with degree of freedom 19. Thus there was a significant increase in posttest level of labour pain among the samples of control group.

Mean, SD and ‘t’ value to compare the difference in mean difference of pre-test and post-test level of labour pain in among primi gravida mothers in control group and experimental group.

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean difference</th>
<th>SD</th>
<th>Difference in mean difference</th>
<th>‘t’ value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>2.3</td>
<td>0.47</td>
<td>3.55</td>
<td>38</td>
<td>17.32</td>
</tr>
<tr>
<td>Experimental group</td>
<td>-1.25</td>
<td>0.786</td>
<td>-1.25</td>
<td></td>
<td>p&lt;0.01**</td>
</tr>
</tbody>
</table>

** Highly significant at P<0.01 level Table value = 2.71**

- The paired t-test was used to compare the pre-test and post-test level of labour pain among primi gravida mothers of experimental group. The mean pre-test score of labour pain 7.1 (SD=0.447) is significantly higher than the experimental group mean post-test score of labour pain of 5.85(SD=0.998) with mean difference of -1.25. The calculated ‘t’ value (7.19) was more than the table value (2.86) at p<0.01 level of significance with degree of freedom 19. Thus there was a significant reduction in post-test level of labour pain among the samples of experimental group.

- Independent ‘t’ was used to compare the post-test level of labour pain among primi gravida mothers in control group and experimental group. Control group post-test mean score of labour pain was 8.5 (SD=0.945) is significantly higher than experimental group post-test mean score of labour pain 5.85 (SD=0.988) with mean difference of 2.65. The calculated ‘t’ value 8.66 was more than the table value (2.71) at 0.01 level of significance with degree of freedom 38. Thus there was a significant reduction in post-test level of labour pain among samples of experimental group.

- Independent ‘t’ was used to compare the difference in mean difference of pre-test and post level of labour pain in among primi gravida mothers in control group and experimental group. Control group mean
difference 2.3(SD= 0.47) is significantly higher than experimental group mean difference of -1.25 (SD=0.786) with difference in mean difference 3.55 the calculated ‘t’ value ( 17.32) was greater than the table value (2.71) at 0.01 level of significance with degree of freedom 38. There was a significant difference in the post test level of labour pain between control group and experimental group. Hence the research hypothesis (H_{2}) was accepted and null hypothesis (H_{02}) was rejected. From this it can be said that jasmine oil back massage was found effective in reducing pain during active phase of first stage of labour among primi gravida mothers in experimental group.

**SECTION IV: Association between pre-test score of labour pain and selected socio demographic variable**

- The calculated chi- square value for duration of marital life (11.852) was greater than table value (5.99) with degree of freedom 2 at p<0.05 level of significance. Hence null hypothesis (H02) was rejected and research hypothesis (H2) accepted. So it can be concluded that there was a significant association of pre-test level of pain score and duration of marital life And there was no significant association of pre-test level of pain with age, religion, type of family, area of living, educational status, occupational status, type of work, family monthly income, dietary pattern, age at marriage present weeks of gestation, number of antenatal visit done during pregnancy, minor disorders mostly experienced during present pregnancy, main type of exercise performed during pregnancy, exercise pattern followed and any history of abdominal surgeries.

**DISCUSSION**

**Objective 1:** To assess pain perception score of labour pain among primi gravida mothers in experimental and control group.

In the present study assessment of pre-test level of labour pain was done, in experimental group and control group, three fourth (75%) of primi gravida mothers had severe pain both in experimental group and control group, one tenth (10%) of primi gravida mothers in experimental group and less than one sixth (15%) of primi gravida mothers in control group had moderate pain, and less than one sixth (15%) of primi gravida mothers in experimental group and one tenth (10%) of primi gravida mothers in control group had very severe pain.

**Objective 2:** To evaluate the effect of jasmine oil massage in experimental group.

In this present study, control group post- test mean score of labour pain was 8.5 (SD=0.945) is significantly higher than experimental group post-test mean score of labour pain 5.85 (SD=.988) with mean difference of 2.65. The calculated ‘t’ value 8.66 was more than the table value (2.02) at 0.05 level of significance at degree of freedom 38. Thus there was a significant reduction in post-test level of labour pain among samples of experimental group.

**Objective 3:** To find out the association between pre-test score of labour pain among primi gravida mothers and selected socio demographic variables in experimental and control group.

The data presented in table reveal that the calculated chi- square value for duration of marital life (11.852) was greater than table value (5.99) with degree of freedom 2 at p<0.05 level of significance. Hence null hypothesis (H02) was rejected and research hypothesis (H2) accepted. So it can be concluded that there was a significant association with pre-test level of pain score and duration of marital life And there was no significant association of pre-test level of pain with age, religion, type of family, area of living, educational status, occupational status, type of work, family monthly income, dietary pattern, age at marriage present weeks of gestation, number of antenatal visit done during pregnancy, minor disorders mostly experienced during present pregnancy, main type of exercise performed during pregnancy, exercise pattern followed and any history of abdominal surgeries.

**CONCLUSION**

The present study revealed that jasmine oil massage was effective in reducing labour pain during active stage of first stage of labour among primi gravida mothers. There is association between pre-test levels of pain with selected socio demographic variable. Findings of the study suggested that jasmine oil back massage can be used as an effective intervention programme to reduce labour pain among primi gravida mothers.

**NURSING IMPLICATION**

**Nursing education**

- The nursing graduated must be prepared to meet the continuum of care their labour room patients in a cost effective manner with a focus on preventive and health promotive services.
- The students must be taught about the principles and techniques of back massage during labour.

**Nursing practice**

- Nurse can incorporate back massage during labour in their practice to reduce labour pain.
• Nurses working in labour room also could use back massage for patients to help them express themselves creatively.

**Nursing administration**
• Nurse administrators should make policies regarding the implementation of back massage.
• The nurse leader must manage and co-ordinate back massage to reduce labour pain among primi gravida mothers in labour room.

**Nursing research**
• The findings of the study can be a background for the future research activities.
• More studies can be conducted in this area to determine the effectiveness of aromatherapy oil for back massage during labour to reduce labour pain

**Limitations**
• The findings of the study can be a background for the future research activities.
• More studies can be conducted in this area to determine the effectiveness of aromatherapy oil for back massage during labour to reduce labour pain.

**Recommendations**
• A similar study can be conducted in larger sample.
• A similar study can be conducted among primi gravida mothers in latent phase of labour.
• A comparative study can also be done between the effectiveness of various non-pharmacological measures for labour pain.
• A comparative study can also be conducted between primi and multi women in labour.
• A study can be done to find the effectiveness of jasmine oil massage on cervical dilatation.

**REFERENCE**
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