



RESEARCH ARTICLE

EFFECT OF LAVENDER OIL MASSAGE ON PAIN PERCEPTION DURING FIRST STAGE OF LABOUR AMONG PRIMI PARTURIENTS

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Manuscript Info

Manuscript History

Received: 30 March 2021
Final Accepted: 30 April 2021
Published: May 2021

Key words:-

Lavender Oil Massage, First Stage Of Labour, Primi Parturient

Abstract

STATEMENT“A study to assess the effect of lavender oil massage on pain perception during first stage of labour among primi parturients admitted in selected hospital, Lucknow.”

Introduction: Pain in labor is a nearly universal experience for child bearing women. Labor pain is a challenging issue for nurses designing intervention protocols. Pain during labor is caused primarily by uterine muscle contractions and somewhat by pressure on the cervix. This pain manifests itself as cramping in the abdomen, groin, and back. Other causes of pain during labor include pressure on the bladder and bowels by the baby's head and stretching of the birth canal and vagina. Labor events have got great psychological, emotional, and social impact to the women and her family. She experiences stress, physical pain, and fear of dangers. The care giver should be tactful, sensitive and respectful to her. Throughout labor she is given continued encouragement and emotional support and assurance are given to keep up the morale. Lavender oil used for aromatherapy is a very versatile essential oil that can be used throughout labour to promote relaxation. It provides a sedation effect to the central nervous system and relieves headache, nervous tension and balances mood swings. According to the American Pregnancy Association, lavender can help create a tranquil, relaxing atmosphere which can reduce pain and stimulate contraction of uterus

Objectives Of The Study:

1. Assess the effect of lavender oil massage on pain perception during first stage of labour among primi parturients of experimental group.
2. Compare the post test level of pain perception between primi parturient of experimental group and control group.
3. Associate the level of pain during first stage of labour among primi parturients of experimental group with selected demographic variables.

Research Methodology: This study was conducted using Quantitative approach at Integral Hospital, Lucknow. Quasi experimental research design (post test with control group design) was used in the study. The

conceptual framework used in this study was Callista Roy's Adaptation Model (1991). The total sample size was 30 (15 in experimental group and 15 in control group) selected by convenience sampling technique. Demographic variables were obtained by structured interview and the level of pain was assessed by modified visual analogue scale

Results: The data obtained are tabulated and analyzed using descriptive and inferential statistics. The statistical analysis of the data showed that the mean post test level of pain perception in control group is higher than the mean post test level of pain perception in experimental group. The mean score of experimental group is 2.2(68%) with SD 0.41 and mean score of control group is 2.8(88%) with SD 0.35 the mean difference is 0.4. The calculated t value is 4.31 at $p < 0.05$ which is more than the table value at $0 < 0.05$. Therefore the null hypothesis H_0 is rejected. So the research hypothesis H_1 was accepted

Conclusion: The findings revealed that there was a significant difference between the level of pain perception among experimental group and control group. It also showed that there was no association of the level of pain during first stage of labour among primiparturients of experimental group with selected demographic variables.

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..... Introduction:-

Series of events that take place in the genital organs in an effort to expel the viable products of conception (fetus, placenta and the membranes) out of the womb through the vagina into the outer world is called Labor¹

The transition from pregnancy to labour is a sequence of event that begins gradually. The physiological transition from being a pregnant woman to becoming mother means an enormous change for each woman both physically and psychologically. It is the time when every system in the body is affected and the experience, though unfortunately not joyous for all, represents a major occurrence in a woman's life.²

Labor pain as stimuli of receptive neurons arising from contractions of the uterine muscles, which is referred to as the visceral, pelvic, and lumbar – sacral areas. To date labor pain management studies have focused on use of drugs that affect sensory awareness of pain which may have additional effect of impeding women's active participation in giving birth.³

Low-back pain is a major component of labor pain in a substantial number of women. It can radiate to the buttocks and down to the thighs with the cramp like sensations. Occipito posterior position of the vertex is a well known cause of back ache. The occiput, when posterior or a very large baby may unduly compress the para cervical ganglia.³

One of the essences used in aromatherapy is lavender. Linalyl acetate is one of its compounds, which has an analgesic effect. The roots of this plant are used to produce anticonvulsants and their leaves are used to reduce pain. The benefits of lavender essence are sedative, analgesic, anti-inflammatory and anti-depressant effects.⁴

Lavender oil used for aromatherapy is a very versatile essential oil that can be used throughout labour to promote relaxation. It provides a sedation effect to the central nervous system and relieves headache, nervous tension and balances mood swings. According to the American Pregnancy Association, lavender can help create a tranquil, relaxing atmosphere which can reduce pain and stimulate contraction of uterus⁵

Statement of the problem

“A study to assess the effect of lavender oil massage on pain perception during first stage of labour among primiparturients admitted in selected hospital, Lucknow.”

Objectives:-

1. Assess the effect of lavender oil massage on pain perception during first stage of labour among primiparturients of experimental group.
2. Compare the post test level of pain perception between primi parturient of experimental group and control group.
3. Associate the level of pain during first stage of labour among primiparturients of experimental group with selected demographic variables.
4. **Hypotheses**
5. H₁-There will be significant differences on pain perception during first stage of labour among primiparturients of experimental group and control group.
6. H₂-There will be significant association between pain perception during first stage of labour among primiparturients of experimental and control group with selected demographic variables at P<0.05 level of significance

Methodology:-**Research approach:**

Quantitative research approach was selected for the study.

Research design:

Quasi experimental research design (post test with control group design) was selected for the study.

Research setting:

Integral hospital, department of obs, Lucknow.

Research variable:**Independent variable:**

lavender oil massage

Dependent variable :

Level of pain perception during first stage of labour

Socio-demographic variable :

Age, educational status, occupation, type of family, area of living, gestational age, supportive person during labour.

Population:

Primi parturient who were having labour pain

Target population:

Primi parturient who were in first stage of labour, admitted in selected hospital and fulfill the inclusion criteria.

Sample & Sampling technique:

Primi parturient who were in first stage of labour admitted in Labour room which was selected by using non probability convenience sampling technique.

Sample size:

Total 30 samples (15 samples in experimental group and 15 samples in control group)

Sampling criteria**Inclusion criteria:**

The present study includes:

1. Who are willing to participate in this study
2. Mother who are in the first stage of labour with cervical dilatation 2-5 cm
3. Singleton pregnancy with cephalic presentation
4. Gestational age between 37 to 42 weeks

Exclusion criteria:

The present study excludes primiparturients

1. who has cervical dilatation more than 5 cm
2. who are undergoing elective caesarean section
3. who have medical conditions complicating pregnancy.
4. Allergic to lavender oil.

Selection & Development of tool

As the study is “A study to assess the effect of lavender oil massage on pain perception during first stage of labour among primiparturients admitted in selected hospital, Lucknow.”

In this study modified visual analogue scale was used to assess the level of pain perception in the primi parturient during first stage of labour.

Description of tool**PART 1: Socio-demographic data**

This part includes items for obtaining personal information of primi parturient women such as age, educational status, occupation, type of family, area of living, gestational age, supportive person during labour.

PART 2:

Modified visual analogue scale to assess the level of pain perception during the labour pain

Scoring interpretation:

- 0-3 - Mild pain
- 4-7 - Moderate pain
- 8-10 - severe pain

Lavender oil massage:

The Lavender oil sensitivity test was done by rubbing 0.5 ml of lavender oil on forearm among experimental group after few minutes of observation regarding any kind of allergy or not lavender oil massage on lumbosacral region by kneading and effulrage technique of the soft tissue of the body particularly the muscles was given with the 2 drops of lavender oil added with 2.5 ml of base oil (coconut oil) oil in left lateral position. The duration of the massage is 5-10 minutes in between the interval of 20 minutes for four times. Control group received hospital routine measures only. After giving intervention level of pain perception was assessed by modified visual analogue scale.

Results:-

The collected information was organized and the results are presented in 5 sections

Section-I Frequency and percentage distribution of samples on demographic variables of experimental and control group

Section II: Frequency distribution of post test level of pain perception among primiparturients

1. Frequency distribution of level of pain perception in experimental group
2. Frequency distribution of level of pain perception in control group

Section III: Compare the post test level of pain perception between primi parturient of experimental group and control group

Section IV: Effectiveness of lavender oil massage

Section V: Association of level of pain perception of experimental group with selected demographic variables.

Section I**Table 1:-** Frequency and percentage distribution of samples on demographic variables of experimental and control groupn=30.

DEMOGRAPHIC VARIABLES		GROUP			
		EXPERIMENTAL GROUP		CONTROL GROUP	
		n	%	N	%
AGE(IN YEARS)	a. 18-24	4	26.7%	5	33.3%
	b. 25-31	9	60%	7	46.7%
	c. 32-38	2	13.3%	3	20.0%
EDUCATIONAL STATUS	a. No formal education	0	0.00%	0	0.00%
	b. Primary education	0	0.00%	0	0.00%
	c. Secondary education	0	0.00%	0	0.00%
	d. Senior secondary education	6	40%	8	53.3%
	e. Graduation and above	9	60%	7	46.7%
OCCUPATION	a. Working	6	40%	8	53.3%
	b. Non working	9	60%	7	46.7%
TYPE OF FAMILY	a. Nuclear	7	46.7%	4	26.7%
	b. Joint	8	53.3%	11	73.3%
	c. Extended	0	0.00%	0	0.00%
AREA OF LIVING	a. Urban	11	73.3%	12	80.0%
	b. Rural	4	26.7%	3	20.0%
GESTATIONAL AGE (IN WEEKS)	a. 37-39	10	66.7%	8	53.3%
	b. 40-42	5	33.3%	7	46.7%
SUPPORTIVE PERSON DURING LABOUR	a. Yes	15	100%	15	100%
	b. No	0	0.00%	0	0.00%

Section II: Frequency distribution of post test level of pain perception among primiparturients

- Frequency distribution of level of pain perception in experimental group

Table 2:- Frequency distribution of level of pain perception in experimental groupn=15.

Pain perception	Scores	Frequency	Percentage %
Mild Pain	00-03	00	00%
Moderate Pain	04-07	12	80%
Severe Pain	08-10	3	20%
TOTAL	10	15	100%

The maximum pain score that can be obtained is 10. Based on the score obtained, the samples are arbitrarily divided into 3 categories; Mild, Moderate and Severe.

Mild pain 0 – 3 (00-30%)

Moderate pain 4– 6(31-70%)

Severe pain 7 – 10(71-100 %)

This table illustrated that no primiparturient had mild pain 0(0%), 12(80%) had moderate pain, and 3(20%) had severe pain.

Table 3:- Frequency distribution of level of pain perception in control groupn=15.

Pain perception	Scores	Frequency	Percentage %
Mild Pain	00-03	00	00%

Moderate Pain	04-07	2	13.3%
Severe Pain	08-10	13	86.7%
TOTAL	10	15	100%

The maximum pain score that can be obtained is 10. Based on the score obtained, the samples are arbitrarily divided into 3 categories; Mild, Moderate and Severe.

Mild pain 0 – 3 (00-30%)

Moderate pain 4– 6(31-70%)

Severe pain 7 – 10(71-100%)

This table illustrated that no primiparturient had mild pain 0(0%), 2(13.3%) had moderate pain, and 13(86.7%) had severe pain.

Section III: Compare the post test level of pain perception between primi parturient of experimental group and control group

Table 4:- Mean, mean percentage and standard deviation of post test level of pain perception among experimental and control group.

Group	Mean	Mean %	SD
Experimental group	2.2	68%	0.41
Control group	2.8	88%	0.35

Data in the table 4 displays the comparison between the level of pain perception in experimental and control group among primiparturient after the lavender oil massage in experimental group. The data shows that that experimental group mean pain score was less (6.8) than the control group (8.8). It shows that there is significant increase in level of pain in control group than experimental group.

Section IV: Effect Of Lavender Oil Massage

Table 5:- Mean, mean percentage, standard deviation and 't' value of post test level of pain perception among experimental and control group n=15.

Group	Mean	Mean %	SD	Mean difference	Unpaired t test	Df
Experimental group	2.2	68%	0.41	0.4	4.31	28
Control group	2.8	88%	0.35			

In order to determine the effectiveness of lavender oil massage, the significance difference between the mean score of level of pain perception of experimental and control group among primiparturient women were computed using 'unpaired t test'. To test the statistical significance of difference between mean score of level of pain perception of experimental and control group among primiparturient women the following hypothesis was stated at 0.05 level of significance.

The data showed in the table shows that mean posttest level of pain perception in experimental were significantly lower than the mean posttest level of pain perception in control group with a mean difference of 0.4. It shows that the calculated value 't' = 4.31 is significant with the degree of freedom 28 at $p < 0.05$. Hence the lavender oil massage during first stage of labour had been an effective method in decreasing the level of pain perception among primiparturient women.

Section V:**Association of level of pain perception of experimental group with selected demographic variables**

To find the association of level of pain perception of experimental group with selected demographic variables, chi-square value was computed. The significance level selected for testing the hypothesis was 0.05.

Table 6:- Association of level of pain perception of experimental group with selected demographic variables.

S.No	Demographic Data	category	(n)	Mild pain	Moderate pain	Severe pain	Df	Chi χ^2	P Value
1.	Age (in years)	18-24	5	0	1	4	4	9.43	9.49
		25-31	7	0	1	6			
		32-38	3	0	0	3			
2.	Educational status	No Formal Education	0	0	0	0	8	0.063	15.51
		Primary Education	0	0	0	0			
		Secondary Education	0	0	0	0			
		Senior Secondary Education	8	0	1	7			
		Graduation and above	7	0	1	6			
3.	Occupation	Working	8	0	0	8	2	1.09	5.99
		Non working	7	0	2	5			
4.	Type of family	Nuclear	4	0	0	4	4	.585	9.49
		Joint	11	0	2	9			
		Extended	0	0	0	0			
5.	Area of living	Urban	12	0	1	11	2	1.28	5.99
		Rural	3	0	1	2			
6.	Gestational Age(in years)	37-39	8	0	1	7	2	0.524	5.99
		40-42	7	0	1	6			

The table showed that there was no significant association between experimental group post test level of pain perception and demographic variables such as age, educational status, occupation, type of family, area of living, gestational age.

Discussion, Summary And Conclusion:-**Discussion:-**

The purpose of the study was to assess the effect of lavender oil massage on pain perception during first stage of labour among primiparturients admitted in selected hospital, Lucknow. The samples were selected by convenience sampling technique. The data was collected from 30 primi parturient with the help of modified visual analogue scale after giving the lavender oil massage on lumbosacral region.

The first objective of the study states that assess the effect of lavender oil massage on pain perception during first stage of labour among primiparturients of experimental group

In this present study, on assessing the effect of lavender oil massage on pain perception during first stage of labour among primiparturients of experimental group it was found that no one had mild pain 12(80%) had moderate pain and 3(20%) had severe pain after the intervention. This shows that after the intervention there was moderate pain among primiparturients where as in control group no one had mild pain, 2(13.3%) had moderate pain 13(86.7%) had severe pain after the intervention.

The finding of the study was supported by a study to determine the effectiveness of sacral massage in reduction of pain during first stage of labour among primigravida mothers at selected Hospital, Madurai. The total size of the sample was 60 primigravida mothers in the first stage of labour (i.e.) 30 control groups and 30 experimental groups

by Convenience sampling..The finding shows that there is significant improvement in pain score of experimental group 28(93%) had moderate pain and 2(7%) had severe pain whereas control group had 30(100%) severe pain.

The second objective of the study states that compare the post test level of pain perception between primiparturient of experimental group and control group.

The comparison between the level of pain perception in experimental and control group among primiparturient after the lavender oil massage, the data shows that that experimental group mean pain score was less (6.8) than the control group (8.8). It shows that there is significant increase in level of pain in control group than experimental group.

The finding of the study is supported by an experimental study(Two group pretest – posttest control group design) was conducted to assess the effect of lavender oil massage on lumbosacral region for labour pain and progress among primiparturients at Labour room at Sri Ramachandra Hospital, Chennai. 60 primiparturients were selected by consecutive non probability sampling, of which 30 mothers were allocated to study group and 30 mothers to control group respectively. The tools used for this study are questionnaire on demographic variables, obstetric variables,numeric pain scale and labour progress chart. The findings showed that Perception of labour pain was reduced among mothers in experimental group with mean score 1.16 where as the mean score in control group was 2.25 which is greater than the experimental group means score which showed a significant increase of mean score in control group.

The third objective states that to associate the level of pain during first stage of labour among primiparturients of experimental group with selected demographic variables

In this present study there was no association found in level of pain during first stage of labour among primiparturients of experimental group with selected demographic variables

Summary:

In this present study effect of lavender oil massage on pain perception during first stage of labour among primiparturients and association of level of pain during first stage of labour among primiparturients of experimental group with selected demographic variables was investigated. The researcher found that there was significant decrease in level of pain perception in experimental group and there was no association found between level of pain and demographic variables.

Conclusion:-

Pain in labor is a nearly universal experience for child bearing women. Labor pain is a challenging issue for nurses designing intervention protocols.The above study was undertaken to assess the effect of lavender oil massage on pain perception during first stage of labour among primiparturientsThe findings revealed that there was a significant difference between the level of pain perception among experimental group and control group. It also showed that there was no associationof the level of pain during first stage of labour among primiparturients of experimental group with selected demographic variables. So with the help of lavender oil massage the level of pain perception can be reduced. It can be used as non pahramocological method to reduce the pain.

Nursing Implication:

The findings of the present study have brought out certain facts that have far reaching implications for nursing in the areas of practice, education, administration and research.

Nursing Education:

Nursing education is a mean through which nurses are prepared for practice in varies settings. Thus the study results can be used as informative illustrations for students who can effectively use sacral massage.

Nursing educator should emphasize the concept of involvement of family during pregnancy for primi mother and encourage student nurses to appreciate their rate. It will help students to give nursing care with minimum resources in hospital and community settings. The institute of nursing education should play an active role in conducting in service education programme, workshops and conducting educational programmes to educate nursing personnel of the hospital about sacral massage.

Implication in nursing administration:-

Nurse administrator is the back bone for providing facilities to improve knowledge regarding pain reduction during labour. There should be a provision for nurses to devote time for giving health education regarding pain reduction during labour in the community. Improvement of practice of nurse can be brought about without any additional budget or special instruments or other resources and with existing number of personnel. Nurse administrators can make a policy decision to use sacral massage for therapeutic purposes. Staff development programs regarding pain reduction during labour can be conducted for staff nurses posted in the labour room.

Implication in nursing research:-

Nurses being the largest group in the health care delivery system and being close to the patient, They should take the steps initiative to conduct further research regarding pain reduction during labour. Many more effects of sacral massage and its benefits can be identified after being research upon. This study may be utilized as a reference tool for further research studies and also could prevent duplication of studies. The research design, findings and tools can be used for avenues for further research.

Limitation:

The study is limited to primi parturient with cervical dilatation 2-5cm in hospitals of Lucknow

Recommendation:-

1. Similar study can be conducted on large sample.
2. A comparative study can also be conducted between primi and multi women in labor.
3. A comparative study can be conducted with different essential oils.

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