Original Research Paper

Nursing

Effectiveness of lavender oil massage on pain perception and level of satisfaction during first stage of labor among primipara mothers at Public Health Centre, Chennai.

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ABSTRACT   An experimental study was conducted to find out the effectiveness of lavender oil massage on pain perception and level of satisfaction during first stage of labor among 60 primipara mothers (30 in control & 30 in experimental) selected by simple random sampling technique at Public Health Centre, Chennai. Post test only design adopted. Interview and question-naire method followed to collect data regarding socio demographic variables, numerical pain scale and rating scale on level of satisfaction. Experimental group of mothers received lavender oil massage at the back. Control group received hospital routine measures. The result shows severity of pain in experimental group was lower than control group at *(p<0.001)* and correlation (r = - 0.27) indicates level of satisfaction increases when pain perception decreases. The study concluded that lavender oil massage is effective non-pharmacological method to relieve pain during labor.

Introduction

Childbirth is considered a life changing event for most women who are associated with great risk and in certain cases it may cause disability or even death for the mother or child stated by Sharron SH (2006). World Bank report (2014) the maternal mortality ratio in India was high as 200 maternal deaths per 100000 live births in 2013. Although Childbirth is a natural phenomenon, it is accompanied by severe pain in most cases (Tournaire and Theau-Yonneau, 2007)

Lowe (2002) explained that the pain and discomfort of labor have two origins, visceral and somatic. The pain from cervical changes, uterine ischemia and distension of lower uterine segment that predominates at the first stage of labor is visceral pain. Pain impulses during first stage of labor are transmitted via T11 and T12 spinal nerve segment and accessory lower thoracic and upper lumbar sympathetic nerves. However relaxation techniques, mainly breathing exercises, had brought 50% reduction in cesarean section for psychological indications reported by Chalmers B, Porter R (2001)

Nowadays, many women are seeking to have natural childbirth using non-medical pain reduction methods (Yoshioka et al, 2012). In aromatherapy essential oils from plants were massaged in the skin, in a form of bath or inhalation using a steam or burner. Literature suggested that essential oils were used to heal various disorders by therapeutically stimulating the olfactory senses via mental responses, respiratory functions and circulatory, it also enhances physical and mental wellbeing of patients (Smith AC, Carmel TC, Caroline AC, 2011)

Aromatherapy is a non-pharmacological complementary treatment which is applied using the senses of smell and touch. While herbal aromatic essence is inhaled, impulses are transferred from the smelling receptors to the brain, leads to the release of specific neurological and hormonal substances that are capable to stimulate, suppress, soothe or inebriate and finally result in physical and physiological changes (Tillett and Ames, 2010). Massage stimulates the body to release endorphins which are natural pain killing agents and stimulates the production of oxytocin, decreases stress hormones and neurological excitability.

Lavender is extensively applied in aromatherapy (Habanananda, 2004). Its oil essence has the releasing and tranquillizing effects (Cavanagh and Wilkinson, 2002) and studies on the uses of essential oils for reducing pain and creating calmness in labor have indicated lavender as the most effective oil.

Lee, Mi Kyoung. Hur, Myung Haeng (2011) studied the effect of

spouse's aromatherapy massage on labour pain, anxiety and childbirth satisfaction among laboring women. The study findings revealed that lavender oil massage group pain was significantly reduced and concluded that aromatherapy massage using lavender, Clary sage, Frankincense & Neroli could be effective in decreasing labor pain. Aromatherapy for pain management in labor, Cochrane Database (2011) stated that there is lack of studies evaluating the role of aromatherapy for pain management in labor. As non-pharmacological methods are widely used for labor pain relief, the present study aimed to determine the effectiveness of lavender oil massage on pain perception and level of satisfaction among primipara mothers admitted in Public Health Centre, Chennai.

Materials and Methods

Quantitative research approach is followed using true experimental research design (post test only design). Using Simple random sampling technique 30 primipara mothers were randomly assigned to experimental group and 30 in control group by lottery method. Formal permission was sought from Principal, GRT College of Nursing and from Managing Director and HOD of Obstetrics and Gynecology Department of Public Health Centre, West Mambalam, Chennai. Data was collected from January 2016 to June 2016. Inclusion criteria comprised only primipara mothers who are in first stage of labor with cervical dilatation between 3 and 5 cm, singleton pregnancy with cephalic presentation and gestational age between 37 and 42 weeks. Exclusion criteria included mothers receiving any analgesics 3 hours before and during intervention, history of infertility, third trimester bleeding, intra uterine growth retardation, allergic to lavender oil during skin test. After explanation and obtaining written consent from women they were randomly assigned to two groups – control group (30 samples) and experimental group (30 samples). Data was collected in the form of short- questionnaire on socio demographic variables, administered the intervention to experimental group. Experimental group of mothers received effleurage technique with lavender oil over the back by making the mother to lie in left lateral position. The duration of the massage is 10 minutes in between the interval of 30 minutes for four times. The lavender oil is an essential oil, hence 2 drops of lavender oil added with 5 ml of base oil and that preparation was utilized for massaging. Control group received hospital routine measures. Post test was done to collect data on pain perception and 4 hours after the childbirth rating scale was used to assess level of satisfaction.

Results

Socio demographic data of subjects: Majority of the mothers belonged to the age group of 21 – 26 year, follows Hindu religion,

education status was higher secondary and followed regular antenatal check up. Chi square test was done to identify the homogeneity of both groups.

Effect of Lavender oil massage: In this study the mean pain score for experimental group (1.16) was reduced when compared with control group (2.25) shown in table 1.

Table 1: Mean, Standard Deviation of pain perception and 't' value of both groups.

n= 60 (30+30)

Sl.no	Group	Mean	Standard Deviation	't' test value
1	Experimental group	1.16	0.37	7.40*** S
2	Control group	2.25	0.44	

*p < 0.05, **p < 0.01, ***p <0.001, S –Significant.

This table depicts that experimental group mean pain score was less (1.16) than the control group (2.25), using unpaired 't' test it is found that the score was significant t=7.40 at p <0.001. Hence lavender oil massage was effective in reducing the pain perception during first stage of labor.

Table 2: Mean, Standard Deviation of level of satisfaction and 't' value of both groups.

n= 60 (30+30)

Sl.no	Group	Mean	Standard Deviation	't' test value
1	Experimental group	36.9	4.53	3.17** S
2	Control group	34.17	1.73	

*p < 0.05, **p < 0.01, ***p <0.001, S –Significant.

Table 2 shows that level of pain perception was increased in experimental group (36.9) when compared to control group (34.17) at p<0.01.

Table 3: Correlation of pain perception and level of satisfaction in both the groups

n= 60 (30+30)

Group	Mean value of Pain perception	Mean value of level of satisfaction	'r' value
Experimental	1.16	36.90	-0.27
Control	2.26	34.16	-0.01

Table 3 depicts the Pearson correlation coefficient 'r' value indicated in negative which is -0.27 in experimental group and r = -0.01 in control group revealed that when pain perception decreases level of satisfaction increases. Though the values obtained in negative it's near the value of 0, hence it shows weaker correlation.

Association between pain perception and socio demographic variables: Chi – square test was used to compute the association between pain perception and socio demographic variables such as age, educational status, occupation, type of family, dietary pattern, monthly income, religion, area of living, height, weight, weeks of gestation and fetal heart rate. Based on the analysis it was evident that there was no statistically significant association between pain perception and above mentioned socio demographic variables.

Association between level of satisfaction and socio demographic variables also showed no significance.

Discussion
The present study intended to assess the effectiveness of lavender oil massage on pain perception and level of satisfaction during first stage of labor among primipara mothers. The findings revealed that lavender oil massage was effective in reducing pain perception in experimental group when compared with control group at p<0.001. These findings were supported based on the study conducted by Lee, Mi Kyoung. Hur, Myung Haeng (2011) to find out the effect of

spouses' aromatherapy massage on labor pain and anxiety during labor showed significant at p<0.01.

Conclusion
According to the results of present study it is concluded that lavender oil massage is effective, safe, cost effective non-pharmacological method of pain relief during first stage of labor among primipara mothers and it also improves the level of satisfaction on childbirth.

Implications for practice
Each nurse as midwife has to provide due care to comfort the mother during labor which is vital in primipara mothers to make her delivery immemorial and pleasant. Lavender oil massage is effective non-pharmacological measure of pain relief during first stage of labor which requires less laborious and cost effective.

Ethical Considerations of the present study
Ethical clearance was obtained from Institutional Ethics Committee of Public Health Centre, West Mambalam, Chennai. Informed consent was obtained from the subjects after explaining the study and anonymity also maintained due importance was given to maintain the confidentiality.

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