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Original Research Article

Effectiveness of Aromatherapy in Reducing Labour Pain and Duration of Labour among Primigravidas: A Pilot Study

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ABSTRACT

Background: Labour pain relief has been considered since many years ago. Aromatherapy as a non pharmacological method of pain relief helps reducing the pain intensity and increases maternal satisfaction. The aim of the study was to assess the effect of the aromatherapy on the labour pain and duration of labour among primigravida women.
Methods: In this clinical trial study, 60 low risk nulliparous women were randomly divided into two aromatherapy massage and massage without aromatherapy groups. The pain intensity was assessed by using visual pain analogue scale. The intensity of pain between these two groups were compared in the latent phase (cervix dilated 3-4cm), active phase (cervix dilated 5-7cm) and transitional phase (cervix dilated 8-10cm) of labour. Maternal satisfaction was checked by a structured questionnaire.
Results: Results of research showed a significant decrease in the pain intensity and duration of labour in the aromatherapy group. Individual reviews showed that women in aromatherapy group were satisfied with pain relief and caesarean section was reduced. No women in either group had postpartum haemorrhage.
Conclusion: Aromatherapy is a cost effective nursing intervention that can decrease pain during labour and it may provide positive effect on delivery experience. It is suggested that aromatherapy can be used for decreasing pain during labour.

Key Words: Aromatherapy, massage, labour pain, primigravidas, visual pain analogue scale

INTRODUCTION

Pain is an unpleasant complex highly individualized phenomenon with both sensory and emotional components. Pregnant women commonly worry about pain during labour and birth. Women without sufficient self confidence and coping strategies may feel threatened and view their pain experience as suffering.[1] Perceptions of labour pain intensity vary. Very occasionally women feel no pain in labour and give birth unexpectedly.[2] The management of labour pain is a major goal of intrapartum care. There are two general approaches: pharmacological and non-pharmacological. Pharmacological approaches deals with drugs, whereas non-pharmacological approaches deals with relaxation, breathing techniques, positioning /movement, massage, hydrotherapy, hot/cold

therapy, music, biofeedback, guided imagery, acupressure, and aromatherapy.[3,4] One large, uncontrolled prospective study reported that aromatherapy during labour used for a variety of purposes and it improves contractions.[5] The complementary therapies during labour may give comfort and pleasurable experience to the mother that she never experience previously. Hence the present study would like to introduce a wonderful experience to the mother undergoing the childbirth process.

MATERIALS AND METHODS

The study was conducted between Dec 2012 and March 2013 at selected hospitals in Kanyakumari Dist, Tamil Nadu, India. This is a randomized trial study with 60 samples. The samples were divided in two groups, 30 in each group. Inclusion criteria was age between 18-35 years old, being at the beginning of active phase of labour, gestational age between 37-41 weeks, single pregnancy, cephalic presentation of fetus, and primiparous women.

Exclusion criteria were women with gestational hypertension, polyhydramnios and oligohydramnios identified by sonography, women with fetal movement reduction, intrauterine growth retardation, fetal death, history of chronic pelvic pain, CPD, women with premature rupture of fetal membranes (PROM) after 12 hours, women with history of infertility, and abnormal pattern of fetal heart rate, any incidence during study (placental abruption, abnormal fetal position, cord prolapse, and etc).

The samples were selected based on inclusion criteria and their cervical dilatation was assessed by vaginal examination. The method used for massage was lavender essential oil massage. The massage was given to all women in experimental group in lateral position by the investigator as midwife. Back massage was done gently with medium pushing and rhythmic mode in experimental Group in the latent phase (cervix dilated 3 - 4 cm), active phase (5 - 7 cm) and transitional phase (8 - 10 cm) of labour. Aromatherapy was administered for one of the following reasons: to alleviate pain (reduction of pain intensity) or to augment contractions and as a means of facilitating the mechanism of labour and reducing labour duration, and its effect on type of delivery. Then women were asked to self-rate their level of pain before and after massage. In other group massage was used, without any aroma. The duration of the active phase of labour was recorded from cervical dilatation of 4 centimeters. The second stage of labour also was recorded from the time of full cervical dilatation until the baby is completely out.

Ethical considerations

This trial was approved by the hospital Research Ethical Committee (Protocol Number: 2013/PhD N/KG/006). A written consent was taken from each participant before data collection. Each woman was assigned an ID code, ensuring data set anonymity. Women were given the permission to withdraw from the study at any point.

RESULTS

Sixty women completed the trial were randomized, the experimental group (n=30) received aromatherapy massage and routine interventions, whereas the control group (n=30) received only massage with routine interventions. We obtained 100% follow up and the aromatherapy massage was completed in all women. At this trial the maternal characteristics were similar. There were significant differences in intrapartum events.

Table 1 Mean and standard deviation of pain score.

Time of Assessment	Aromatherapy Group		Control group	
	Mean	SD	Mean	SD
Latent phase	6.2	0.13	8.6	0.5
Active phase	7.5	0.21	9.0	0.34
Transitional phase	8.3	0.47	9.6	0.21

Table 2 Mean and standard deviation of Duration of labour.

Stages of labour in hours: mts	Aromatherapy Group		Control group	
	Mean	SD	Mean	SD
First stage	11:55	2.4	14:58	2.9
Second stage	1:5	0.33	1:58	0.37
Third stage	0:28	0.02	0:30	0.05

Table 3 Comparison of pain score.

Pain assessment	Groups	Mean	SD	value of 't'	P value
Latent phase	Aromatherapy group	6.2	0.13	65.7	P<0.0001
	Control group	8.6	0.5		
Active phase	Aromatherapy group	7.5	0.21	53.1	P<0.0001
	Control group	9.0	0.34		
Transitional phase	Aromatherapy group	8.3	0.47	35.7	P<0.0001
	Control group	9.6	0.21		

Table 4 Comparison of Duration of labour.

Stages of labour	Groups	Mean	SD	value of 't'	P value
First stage	Aromatherapy group	11.55	2.4	11.38	P<0.0001
	Control group	14.58	2.9		
Second stage	Aromatherapy group	1.5	0.33	0.84	P=0.3997
	Control group	1.58	0.37		
Third stage	Aromatherapy group	0.28	0.02	12.09	P<0.0001
	Control group	0.30	0.05		

The result of the present study was based on the findings obtained from statistical analysis of collected data. In this trial the mean pain score (Table 1) for aromatherapy group was reduced when compared with control group. Similarly the mean length of duration of labour also reduced in first stage and second stage of labour (Table 2). There was a significant difference in pain score during latent phase, active phase and transitional phase, which was calculated by t test, shown in Table 3. The length of labour was also found to be significant in first stage of labour (P<0.0001) when compared with control group, but no significant difference were found in second (P=0.0518) and third stage of labour (P=1.000) which was shown in Table 4. This study reported that body mass index, nature of onset of labour pain, analgesics, and history of dysmenorrhea were having association with labour pain. But nature of conception and antenatal checkup is not having association with labour pain. Individual reviews showed that women in aromatherapy group were satisfied with pain relief and caesarean section was reduced. No women in either group had postpartum haemorrhage.

DISCUSSION

This study was done to assess the effect of aromatherapy on labour pain intensity and a few intrapartum outcomes. Randomization was successful, and the baseline characteristics were similar between two groups. There are no maternal adverse effects and neonatal ill effects were reported in lavender aromatherapy application. This study achieved its main objective that, lavender aromatherapy massage was effective in relieving labour pain and duration of labour in experimental group whereas in massage only group there

was not a reduction in pain intensity and duration of labour. This study report also supported by Chang et al. (2002) study, where they demonstrated that aromatherapy was effective on pain and fear during labour.[5] Burns et al. (2000) also stated that the aromatherapy was used for relief pain, nausea and vomiting and to strengthen uterine contractions in labour. [6]

Childbirth is a joyful event; it also rendered the mother to serious forms of pain experience. The degree of pain experienced during labour is related to the frequency, intensity and duration of uterine contractions and dilatation of the cervix. [7] Severe pain may cause hyperventilation increases cardiac output and maternal catecholamine secretion with risk of uteroplacental constriction. This may leads to maternal and neonatal complications related to childbirth. Therefore adequate support and care during childbirth may reduce all these negative outcomes. [8] The present study has proven that aromatherapy was helped in reduction of labour pain and it may leads to vanishing of all ill effects related to childbirth and it was giving positive childbirth experience to the mother. Overall increasing labour pain intensity was recognized when the labour was progressed where the drop of pain intensity in aromatherapy group was more remarkable than massage only group. This was probably due to the sedating effects of linalool acetate in lavender as a narcotic. [9]

Similarly prolonged duration of first stage of labour is an important cause of caesarean and instrumental vaginal delivery. [10] If duration of labour prolonged; it may cause offspring hypoxia.[11] Moreover it also causes fear of childbirth. Fear of childbirth may complicate communication between the woman and the maternity staff, and poor communication may complicate clinical decisions and delay obstetric interventions. [12] The present study demonstrated that the duration of labour pain was reduced in first stage of labour and reduces the fear about childbirth.

The present study reported that the continuous presence of the researcher at the bedside played the role of a supporter in the aspect of reduced fear of women in both groups as an emotional support. Similar studies in other countries stated that aroma massage therapy could be introduced as a new effective method during delivery.[13] This research strongly supported that aromatherapy can used for more invasive forms of pain management during labour and has a positive effect on client satisfaction.

CONCLUSION

As a non-pharmacological intervention, it is easy to administer, cost effective, harmless, do not require much training, and appealing to the mother. This intervention may be used by health care practitioners (medical and nursing staff, student nurses) as part of their routine when providing care with women during the labour process. The findings added knowledge to the existing body of literature on research related to non-pharmacologic management during labour and childbirth.

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REFERENCES

1. Lowedermilk, Perry. Maternity and women's Health Care; Mosby Publishers. 9th edition; 2007: 488-452.
2. Gaskin IM.2003. The pain/pleasure riddle. Ina May's Guide to Childbirth. New York: Bantam Dell.21(3): 150–66.
3. Lowe NK. 2002.The nature of labour pain. Am J Obstet Gynecol. 186: S16.

4. Janula Raju, Mahipal Singh.2013 Effectiveness of Biofeedback as a tool to reduce the perception of labour pain among Primigravidas: Pilot Study. Turkish Journal of Family Medicine and Primary Care.7 (3): 52- 55.
5. Chang MY, Wang SY, Chen CH. 2002 Effects of massage on pain and anxiety during labour: a randomized controlled trial in Taiwan. Journal of Advanced Nurings.38(1):68-73.
6. Burns E, Zobbi V, Panzeri D, Oskrochi R, Regalia A.2007. Aromatherapy in childbirth: a pilot randomised controlled trial. An International Journal of Obstetrics and Gynaecology.114(7): 838–844
7. Melzack R. 1993.Labour pain as a model for acute pain. Pain. 53: 117-120.
8. Adams SS, Eberhard-Gran M, Eskild A. 2012.Fear of childbirth and duration of labour: a study of 2206 women with intended vaginal delivery. British Journal of Obstetrics and Gynecology. 119: 10.
9. Abbaspoor Zahra, Mohammadkhani Shahri Leila.2013. Lavender aromatherapy massages in reducing labour pain and duration of labour: A randomized controlled trial. African Journal of Pharmacy and Pharmacology. 7(8): 426-430.
10. Kolas T, Hofoss D, Daltveit AK, Nilsen ST, Henriksen T, Hager R, et al. 2003.Indications for cesarean deliveries in Norway. Am J Obstet Gynecol. 188: 864–70.
11. Blix E, Kumle M, Oian P. 2008.What is the duration of normal labour? Laegeforen .128: 686–9.
12. Ryding EL, Wijma B, Wijma K, Rydhstrom H. 1998. Fear of childbirth during pregnancy may increase the risk of emergency cesarean section. Acta Obstet Gynecol Scand. 77: 542–7.
13. Pollard. KR. 2008.Introducing aromatherapy as a form of pain management into a delivery suite. Journal of the association of chartered physiotherapists in women's health: 103:12-16.

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