



## **Aromatherapy Studies For Pregnancy, Childbirth and Postpartum Care**

### **Pregnancy**

Iran Red Crescent Med J. 2014 Mar;16(3):e14360. doi: 10.5812/ircmj.14360. Epub 2014 Mar 5.

#### **The effect of lemon inhalation aromatherapy on nausea and vomiting of pregnancy: a double-blinded, randomized, controlled clinical trial.**

##### **Abstract**

##### **BACKGROUND:**

Nausea and vomiting of pregnancy are amongst the most common complaints that effects on both the physical and mental conditions of the pregnant women. Due to the increasing tendency of women to use herbal medications during pregnancy, the effect of lemon inhalation aromatherapy on nausea and vomiting of pregnancy was investigated in this study.

##### **OBJECTIVES:**

The aim of this study was to determine the effect of lemon inhalation aromatherapy on nausea and vomiting during pregnancy.

##### **MATERIALS AND METHODS:**

This was a randomized clinical trial in which 100 pregnant women with nausea and vomiting who had eligibility criteria were randomly divided into intervention and control groups based on four- and six-random block sampling method. Lemon essential oil and placebo were given to the intervention and control groups, respectively, to inhale it as soon as they felt nausea. The nausea, vomiting, and retch intensity were investigated 24 hours before and during the four days of treatment by means of PUQE-24 (24-hour Pregnancy Unique Quantification of Emesis).

##### **RESULTS:**

There was a statistically significant difference between the two groups in the mean scores of nausea and vomiting on the second and fourth days ( $P = 0.017$  and  $P = 0.039$ , respectively). The means of nausea and vomiting intensity in the second and fourth days in the intervention group were significantly lower than the control group. In addition, in intragroup comparison with ANOVA with repeated measures, the nausea

and vomiting mean in the five intervals, showed a statistically significant difference in each group ( $P < 0.001$  and  $P = 0.049$ , respectively).

### **CONCLUSIONS:**

Lemon scent can be effective in reducing nausea and vomiting of pregnancy.

Iran Red Crescent Med J. 2012 Nov;14(11):727-30. doi: 10.5812/ircmj.3477. Epub 2012 Nov 15.

### **Study of the effect of mint oil on nausea and vomiting during pregnancy.**

#### **Abstract**

#### **BACKGROUND:**

Approximately 80 percent of pregnant women suffer by some degree of nausea and vomiting. But the treatment of nausea and vomiting of pregnancy is rarely successful.

#### **OBJECTIVES:**

The aim of this study was evaluation the effect of mint on nausea and vomiting during pregnancy that its treatment in some recent research has been effective.

#### **MATERIALS AND METHODS:**

In this double blind RCT, 60 pregnant women with nausea and vomiting of pregnancy were sampled and divided into two groups with Block-randomized method. mint group, in addition to giving the routine training, for four consecutive nights, before sleeping, a bowl of water whit four drops of pure mint essential oil placed on the floor near their beds and in control groups were used four drops of normal saline . The severity of nausea by using Visual Analog Scale (VAS) and severity of vomiting by counting the number of its in 7 days prior, 4 days during, and 7 days after intervention were assessed.

#### **RESULTS:**

The results showed that the severity of nausea and vomiting did not differ between the two groups in 7days before and after intervention by using repeated measurement test. But during intervention, the severity of nausea showed a decreasing trend (especially in 4th night) in the mint and an increasing trend in the control group. The severity of nausea within 7 days after the intervention had a decreasing trend in both groups; however, the intensity was lower in the mint than saline group but not statically significant. No meaningful relationship has been detected during and after intervention for the intensity of vomiting.

#### **CONCLUSIONS:**

The results of study showed that peppermint essential oil hasn't the effect on nausea and vomiting of pregnancy.

Women Birth. 2014 Mar;27(1):41-5. doi: 10.1016/j.wombi.2013.09.005. Epub 2013 Oct 25.

## **The self-prescribed use of aromatherapy oils by pregnant women.**

### **Abstract**

#### **BACKGROUND:**

While some studies have reported effectiveness of aromatherapy oils use during labour there is no reported evidence of efficacy or risks of aromatherapy oils use for pregnancy-related symptoms or conditions. A number of aromatherapy oils are unsafe for use by pregnant women yet there is currently no research examining the prevalence and characteristics of women who use aromatherapy oils during pregnancy.

#### **AIM:**

To conduct an empirical study of the prevalence and characteristics of women who use aromatherapy oils during pregnancy.

#### **METHODS:**

The research was conducted as part of the Australian Longitudinal Study on Women's Health (ALSWH), focusing on the nationally representative sample of Australian women aged 31-36 years. Data were collected via a cross-sectional questionnaire (n=8200) conducted in 2009.

#### **RESULTS:**

Self-prescribed aromatherapy oils were used by 15.2% of pregnant women. Pregnant women were 1.57 (95% CI: 1.01, 2.43) times more likely to self-prescribe use of aromatherapy oils if they have allergies or hayfever, and 2.26 (95% CI: 1.34, 3.79) times more likely to self-prescribe use of aromatherapy oils if they have a urinary tract infection (UTI).

#### **CONCLUSION:**

Our study highlights a considerable use of aromatherapy oils by pregnant women. There is a clear need for greater communication between practitioners and patients regarding the use of aromatherapy oils during pregnancy, as well a need for health care practitioners to be mindful that pregnant women in their care may be using aromatherapy oils, some of which may be unsafe.

J Altern Complement Med. 2013 Oct;19(10):805-10. doi: 10.1089/acm.2012.0103. Epub 2013 Feb 14.

## **Physical and psychologic effects of aromatherapy inhalation on pregnant women: a randomized controlled trial.**

### **Abstract**

#### **OBJECTIVES:**

Stress reduction care is important for pregnant women to decrease obstetric complications and children's health problems after birth. The aim of this study is to clarify the physical and psychologic effects of inhalation aromatherapy on pregnant women. Essential oils with high linalool and linalyl acetate content that may be used

during pregnancy were selected and among these, and the one preferred by the participant was used.

**DESIGN:**

This was a prospective, randomized, controlled trial.

**SETTINGS/LOCATION:**

This trial was performed at a gynecology outpatient department in a hospital in Kyoto, Japan.

**PARTICIPANTS:**

The study included pregnant women in week 28 of a single pregnancy with a normal course.

**INTERVENTIONS:**

Participants were randomly assigned into an aromatherapy group and a control group. They were seated in the resting, seated position for 10 minutes. During the latter 5 minutes of each 10-minute session, aromatherapy inhalation was performed for the aromatherapy group.

**OUTCOME MEASURES:**

Before and after the intervention, the Profile of Mood States (POMS) was measured. During the trial, the heart-rate fluctuations were measured for the autonomic nervous system regulation.

**RESULTS:**

A total of 13 pregnant women participated in the trial. Seven (7) participants were assigned to the aromatherapy group and 6 participants to the control group. The results of the POMS were such that based on an intragroup comparison, significant differences were observed in the Tension-Anxiety score ( $p < 0.05$ ) and the Anger-Hostility score ( $p < 0.05$ ), and the respective improvements observed were due to aromatherapy. The results of the autonomic nervous system regulation were such that based on an intragroup comparison within the aromatherapy group, the parasympathetic nerve activity increased significantly ( $p < 0.05$ ).

**CONCLUSIONS:**

Aromatherapy inhalation using essential oils containing linalyl acetate and linalool was found to be effective for the POMS and parasympathetic nerve activity, based on an intragroup comparison. However, based on a comparison between the groups, no substantial difference was observed; hence, further study is necessary in the future.

J Med Assoc Thai. 2015 Aug;98(8):734-8.

**Reducing Pain and Anxiety during Second Trimester Genetic Amniocentesis Using Aromatic Therapy: A Randomized Trial.**

Hanprasertpong T, Kor-anantakul O, Leetanaporn R, Suwanrath C, Suntharasaj T, Pruksanusak N, Pranpanus S.

## **Abstract**

### **OBJECTIVE:**

To evaluate the benefit of aromatic therapy using menthol for decrease pain perception during amniocentesis.

### **MATERIAL AND METHOD:**

A prospective randomized study was conducted to compare pain level between groups of pregnant women who underwent amniocentesis with and without aromatic therapy using menthol. Visual analogue scale (VAS) was used for pain assessment. The participants were asked for their anticipated pain and anxiety level and level of pain before and immediately after the procedure.

### **RESULTS:**

Three hundred seventeen pregnant women were recruited into the present study, 158 in the menthol group and 159 in the non-menthol group. Mean VAS score of the post-procedure pain and anxiety did not differ significantly between the two groups. Mean VAS score of the anticipated pain influenced the mean VAS score of the pre-procedure anxiety and post-procedure pain and anxiety irrespective of the group. Mean VAS score of the pre-procedure anxiety and post-procedure pain and anxiety increased about 0.3 cm for each 1 cm of increasing mean VAS score of anticipated pain.

### **CONCLUSION:**

Aromatic therapy using menthol was not significantly effective in reducing pain and anxiety during second trimester genetic amniocentesis.

Complement Ther Clin Pract. 2006 Feb;12(1):48-54. Epub 2005 Oct 6.

## **Aromatherapy and massage for antenatal anxiety: its effect on the fetus.**

### **Abstract**

Antenatal anxiety has been linked to maternal hypothalamic-pituitary-adrenal axis changes which can affect fetal development and may have lasting effects on the child's psychological development. Treatments for anxiety have hitherto focused on psychotherapy techniques or antidepressant drugs but these do not always effect long term improvement. Aromatherapy and massage have successfully been used to produce significantly greater improvement in reduction of anxiety. Midwives may highlight anxiety in some of the mothers in their care and can incorporate the holistic approach of aromatherapy and massage into their practice. However, further research is required to establish the efficacy and cost-effectiveness of aromatherapy and massage in the antenatal period.

## **Childbirth**

J Caring Sci. 2015 Jun 1;4(2):135-41. doi: 10.15171/jcs.2015.014. eCollection 2015.

**Effect of Inhalation of Aroma of Geranium Essence on Anxiety and Physiological Parameters during First Stage of Labor in Nulliparous Women: a Randomized Clinical Trial.**

**Abstract**

**INTRODUCTION:**

Anxiety increases significantly during labor, especially among nulliparous women. Such anxiety may affect the progress of labor and physiological parameters. The use of essential oils of aromatic plants, or aromatherapy, is a non-invasive procedure that can decrease childbirth anxiety. This study examined the effect of inhalation of the aroma of geranium essential oil on the level of anxiety and physiological parameters of nulliparous women in the first stage of labor.

**METHODS:**

In study, was carried out on 100 nulliparous women admitted to Bent al-Hoda Hospital in the city of Bojnord in North Khorasan province of Iran during 2012-2013. The women were randomly assigned to two groups of equal size, one experimental group (geranium essential oil) and one control (placebo) group. Anxiety levels were measured using Spielberger' questionnaire before and after intervention. Physiological parameters (systolic and diastolic blood pressure, respiratory rate, pulse rate) were also measured before and after intervention in both groups. Data analysis was conducted using the x2 test, paired t-test, Mann-Whitney U test, and Wilcox on test on SPSS 11.5.

**RESULTS:**

The mean anxiety score decreased significantly after inhalation of the aroma of geranium essential oil. There was also a significant decrease in diastolic blood pressure.

**CONCLUSION:**

Aroma of essential oil of geraniums can effectively reduce anxiety during labor and can be recommended as a non-invasive anti-anxiety aid during childbirth.

Iran Red Crescent Med J. 2014 Jun;16(6):e18371. doi: 10.5812/ircmj.18371. Epub 2014 Jun 5.

**Aromatherapy with citrus aurantium oil and anxiety during the first stage of labor.**

**Abstract**

**BACKGROUND:**

Anxiety is the most common psychological response of women to labor. Aromatherapy, i.e. the use of fragrant essential oils to stimulate the olfactory system, can create a state of calmness and help to alleviate anxiety.

**OBJECTIVES:**

The present study tried to determine the efficacy of aromatherapy with Citrus aurantium oil in reducing anxiety during the first stage of labor.

**PATIENTS AND METHODS:**

This randomized clinical trial was conducted on two groups of pregnant women, referred to Vali-Asr Hospital (Tuyserkan, Iran) between June and September 2013. The sample size was comprised of 63 subjects in each group. Gauzes impregnated with 4 mL of C. aurantium distillate and normal saline were attached to the collar of subjects in the aromatherapy and control groups, respectively. The gauzes were changed every 30 minutes. The levels of anxiety in both groups were measured at baseline and after the intervention at dilations of 3-4 and 6-8 cm. The participants were followed up until delivery and the first- and fifth-minute Apgar scores were recorded. Data were collected using a demographic and obstetric characteristics questionnaire, an examination and observation checklist, and Spielberger state-trait anxiety questionnaire. Data analysis was performed with independent-t, Mann-Whitney, and chi-square tests in SPSS-22. P values less than 0.05 were considered significant.

**RESULTS:**

Before the intervention, both groups had same levels of anxiety. However, the levels of anxiety at dilations of 3-4 and 6-8 cm were significantly lower in the aromatherapy group compared with the control group.

**CONCLUSIONS:**

The results of this study confirmed aromatherapy with C. aurantium blossom oil as a simple, inexpensive, noninvasive, and effective intervention to reduce anxiety during labor.

Iran Red Crescent Med J. 2014 Aug 17;16(9):e14455. doi: 10.5812/ircmj.14455.  
eCollection 2014.

**Comparing the effects of aromatherapy with rose oils and warm foot bath on anxiety in the first stage of labor in nulliparous women.****Abstract****BACKGROUND:**

Anxiety is the most common emotional response in women during delivery, which can be accompanied with adverse effects on fetus and mother.

**OBJECTIVES:**

This study was conducted to compare the effects of aromatherapy with rose oil and warm foot bath on anxiety in the active phase of labor in nulliparous women in Tehran, Iran.

**PATIENTS AND METHODS:**

This clinical trial study was performed after obtaining informed written consent on 120 primigravida women randomly assigned into three groups. The experimental group 1 received a 10-minute inhalation and footbath with oil rose. The experimental group 2 received a 10-minute warm water footbath. Both interventions were applied at the onset of active and transitional phases. Control group, received routine care in labor. Anxiety was assessed using visual analogous scale (VASA) at onset of active and transitional phases before and after the intervention. Statistical comparison was performed using SPSS software version 16 and  $P < 0.05$  was considered significant.

**RESULTS:**

Anxiety scores in the intervention groups in active phase after intervention were significantly lower than the control group ( $P < 0.001$ ). Anxiety scores before and after intervention in intervention groups in transitional phase was significantly lower than the control group ( $P < 0.001$ ).

**CONCLUSIONS:**

Using aromatherapy and footbath reduces anxiety in active phase in nulliparous women.

Iran J Nurs Midwifery Res. 2015 Nov-Dec;20(6):661-4. doi: 10.4103/1735-9066.170001.

**The effect of aromatherapy by essential oil of orange on anxiety during labor: A randomized clinical trial.****Abstract****BACKGROUND:**

Labor is a stressful situation that may have an adverse impact. Aromatherapy is a method to control anxiety and stress of women. This study was conducted to investigate the effect of aromatherapy using essential oil of orange on women's anxiety during labor.

**MATERIALS AND METHODS:**

In this clinical trial study, 100 women during labor were randomly assigned to two groups: intervention group and control group. The women in the intervention group were exposed to orange essential oil, but the women in the control group were exposed to distilled water. The women's anxiety was assessed using the Spielberger inventory. Moreover, physiological parameters such as systolic and diastolic blood pressure, respiration and pulse rates were assessed in all the women before and 20 min after the intervention. The data were analyzed by Chi-square, Wilcoxon, paired t-test, and Mann-Whitney U test. Data were evaluated with the SPSS 16 program. The significance level of  $P < 0.05$  was considered.



**RESULTS:**

The level of anxiety of women in both intervention ( $P = 0.03$ ) and control ( $P = 0.003$ ) groups reduced after the intervention. However, the reduction was more in the intervention group (difference in anxiety scores after the intervention in comparison to before intervention =  $-3.08$ ) in comparison to the control group (score =  $-1.14$ ). No significant change was found in the physiological parameters of women in the intervention group after the intervention.

**CONCLUSIONS:**

Aromatherapy is a noninvasive and effective method to help women overcome their anxiety during labor. Orange scent can be useful in childbirth units to help women who are experiencing stress in labor.

Complement Ther Clin Pract. 2005 Aug;11(3):205-10.

**Audit of an aromatherapy service in a maternity unit.****Abstract**

This paper reports the results of the audit of a maternity aromatherapy service at a small Midlands maternity unit. The service was introduced in May 2000 and the principal aims of the audit, conducted in October 2002 were to investigate clinical effectiveness, maternal satisfaction and staff training needs. The service has been shown to be effective in normalising childbirth and increasing satisfaction of mothers in respect of their labour experiences. A concurrent audit of staff demonstrated interest and enthusiasm of the service and identified areas for further development. The service was short listed for the Prince of Wales Foundation for Integrated Health Awards for Good Practice in 2003 and awarded a certificate of achievement.

J Altern Complement Med. 2000 Apr;6(2):141-7.

**An investigation into the use of aromatherapy in intrapartum midwifery practice.****Abstract****OBJECTIVE:**

The principal aim of the study was to examine the contribution of aromatherapy to the promotion of maternal comfort during labor and as a tool to improve the quality of midwifery care.

**DESIGN:**

Evaluative study.

**SETTING:**

Delivery suite in a large British teaching hospital with approximately 6,500 deliveries per annum.

**SUBJECTS:**

A total of 8,058 mothers were evaluated between 1990 and 1998.

**INTERVENTIONS:**

Women were offered aromatherapy to relieve anxiety, pain, nausea and/or vomiting or to strengthen contractions. Routine data collected on the use of aromatherapy over the period were analyzed. Data from the unit audit were used to provide a comparison group of mothers not given aromatherapy (n = 15,799) from the study center.

**OUTCOME MEASURES:**

Outcome measures include mothers' ratings of effectiveness, outcomes of labor, use of pharmacologic pain relief, uptake of intravenous oxytocin, reported associated symptoms, and annual costs.

**RESULTS:**

The use of aromatherapy during childbirth was an increasingly popular care option with mothers and midwives. More than 50% of mothers rated it as helpful, and only 14% found it unhelpful. The use of aromatherapy was not confined to low-risk mothers. Sixty percent of the sample were primigravidae, and 32% overall had had their labor induced. The administration of aromatherapy in childbirth did appear to reduce the need for additional pain relief in a proportion of mothers. More than 8% of primigravidae and 18% of multigravidae used no conventional pain relief during labor after using essential oils. During the years of the study, the use of pethidine in the study center declined from 6% to 0.2% of women. The study also showed that aromatherapy may have the potential to augment labor contractions for women in dysfunctional labour. A very low number of associated adverse symptoms were reported (1%).

**CONCLUSION:**

This study represents a successful example of the integration of a complementary therapy into mainstream midwifery practice and forms a basis for future research.

J Altern Complement Med. 2012 Oct;18(10):932-8. doi: 10.1089/acm.2011.0254. Epub 2012 Aug 16.

**Aromatherapy and massage intrapartum service impact on use of analgesia and anesthesia in women in labor: a retrospective case note analysis.****Abstract****BACKGROUND:**

Over the past decade, interest in complementary therapies and alternative medicine has escalated among midwives and the general public in response to increased demand from expectant mothers for more choice, control, and continuity in labor.

**OBJECTIVE:**

The aim of this study was to explore if an aromatherapy and massage intrapartum service (AMIS) reduced the need for analgesia during labor. This article reports results related to the effects of an AMIS on type of analgesia chosen by women in labor, and on rates of anesthesia--one aspect of the full study.

**SETTING/LOCATION:**

The study was conducted in a general maternity unit in southwest England, UK.

**DESIGN:**

A quantitative research approach was taken, whereby contemporaneously completed service evaluation forms of 1079 women (601 nulliparous women and 478 multiparous women; AMIS group) were retrospectively analyzed in comparison with the birth records of an equal number of similar women (comparison group). Data analysis was achieved by entering data from the forms and comparison sample into an SPSS package and running statistical tests.

**RESULTS:**

In the AMIS group, overall analgesia usage was higher for transcutaneous electrical stimulation at 34%, compared with 15.9% ( $p < 0.001$  allowing for parity), and for nitrous oxide and oxygen at 87.6%, compared with 80.8% ( $p < 0.001$ ). Pethidine use did not differ after adjustment for parity at 30.1%, compared with 24.2% ( $p = 0.27$ ) in the AMIS and comparison groups, respectively. Rates were lower in the AMIS group for epidural anesthesia at 29.7%, compared with 33.8% ( $p = 0.004$  allowing for parity) in the comparison group; spinal anesthesia at 6%; compared with 12.1% ( $p < 0.001$ ) in the comparison group; and general anesthesia at 0.8%, compared with 2.3% ( $p = 0.033$ ) in the comparison group.

**CONCLUSIONS:**

Having an AMIS appears to have a positive impact on reducing rates of all types of intrapartum anesthesia. The Service is a beneficial addition to conventional midwifery practice that may influence mode of delivery and reduce general anesthesia rates.

BJOG. 2007 Jul;114(7):838-44. Epub 2007 May 16.

**Aromatherapy in childbirth: a pilot randomised controlled trial.**

Burns E<sup>1</sup>, Zobbi V, Panzeri D, Oskrochi R, Regalia A.

**Author information****Abstract****OBJECTIVES:**

We aimed to determine the feasibility of conducting a randomised controlled trial (RCT) on the use of aromatherapy during labour as a care option that could improve maternal and neonatal outcomes.

**DESIGN:**

RCT comparing aromatherapy with standard care during labour.

**SETTING:**

District general maternity unit in Italy.

**SAMPLE:**

Two hundred and fifty-one women randomised to aromatherapy and 262 controls.

**METHODS:**

Participants randomly assigned to administration of selected essential oils during labour by midwives specifically trained in their use and modes of application.

**MAIN OUTCOME MEASURES:**

Intrapartum outcomes were the following: operative delivery, spontaneous delivery, first- and second-stage augmentation, pharmacological pain relief, artificial rupture of membranes, vaginal examinations, episiotomy, labour length, neonatal wellbeing (Apgar scores) and transfer to neonatal intensive care unit (NICU).

**RESULTS:**

There were no significant differences for the following outcomes: caesarean section (relative risk [RR] 0.99, 95% CI: 0.70-1.41), ventouse (RR 1.5, 95% CI: 0.31-7.62), Kristeller manoeuvre (RR 0.97, 95% CI: 0.64-1.48), spontaneous vaginal delivery (RR 0.99, 95% CI: 0.75-1.3), first-stage augmentation (RR 1.01, 95% CI: 0.83-1.4) and second-stage augmentation (RR 1.18, 95% CI: 0.82-1.7). Significantly more babies born to control participants were transferred to NICU, 0 versus 6 (2%),  $P = 0.017$ . Pain perception was reduced in aromatherapy group for nulliparae. The study, however, was underpowered.

**CONCLUSION:**

This study demonstrated that it is possible to undertake an RCT using aromatherapy as an intervention to examine a range of intrapartum outcomes, and it provides useful information for future sample size calculations.

Taehan Kanho Hakhoe Chi. 2005 Dec;35(7):1277-84.

**[Effects of delivery nursing care using essential oils on delivery stress response, anxiety during labor, and postpartum status anxiety].**

**Abstract****OBJECTIVES:**

This study was designed to investigate the effect of delivery nursing care using essential oils on labor stress response, labor anxiety and postpartum status anxiety for primipara.

**METHODS:**

This study used nonequivalent control group pretest-posttest design. The subjects of this experiment consisted of forty eight primipara with single gestation, full term, & uncomplicated pregnancies. Twenty four primipara were in the experimental and control group each. Their mean age was 27.9 years old, their mean gestation period 279.9 days. As a treatment, delivery nursing care using essential oils was applied by nurses. Data collected epinephrine, norepinephrine, anxiety during labor. In the 24 hours after birth, the data for the postpartum mother's status anxiety was collected. Data was

analyzed by t-test, repeated measures ANOVA, Mann-Whitney U test, & Wilcoxon signed ranks test with SPSS Program.

### **RESULTS:**

Plasma epinephrine, norepinephrine were significantly low in the experimental group ( $P=0.001$ ,  $P=0.033$ , respectively). There was no significant difference between the two groups in anxiety during labor and postpartum mother's status anxiety.

### **CONCLUSION:**

These findings indicate that delivery nursing care using essential oils could be effective in decreasing plasma epinephrine, norepinephrine. But, that could not be verified in decreasing mother's anxiety.

## **Postpartum**

J Midwifery Womens Health. 2006 Mar-Apr;51(2):e21-7.

### **The psychological effects of aromatherapy-massage in healthy postpartum mothers.**

Imura M<sup>1</sup>, Misao H, Ushijima H.

#### **Author information**

#### **Abstract**

This study examined the effect of aromatherapy-massage in healthy postpartum mothers. A quasi-experimental between-groups design was used. Mothers who received aromatherapy-massage were compared with a control group who received standard postpartum care. Thirty-six healthy, first-time mothers with vaginal delivery of a full-term, healthy infant participated in this study. Sixteen mothers received a 30-minute aromatherapy-massage on the second postpartum day; 20 mothers were in the control group. All mothers completed the following four standardized questionnaires before and after the intervention: 1) Maternity Blues Scale; 2) State-Trait Anxiety Inventory; 3) Profile of Mood States (POMS); and 4) Feeling toward Baby Scale. In the aromatherapy-massage group, posttreatment scores significantly decreased for the Maternity Blues Scale, the State-Anxiety Inventory, and all but one of the Profile of Mood States subscales. Posttreatment scores in the intervention group significantly increased in Profile of Mood States-Vigor subscale and the Approach Feeling toward Baby subscale. Scores in the intervention group significantly decreased in Conflict Index of Avoidance/Approach Feeling toward Baby subscale. Our results suggest that aromatherapy-massage might be an effective intervention for postpartum mothers to improve physical and mental status and to facilitate mother-infant interaction.

Complement Ther Clin Pract. 2012 Feb;18(1):66-70. doi: 10.1016/j.ctcp.2011.02.003. Epub 2011 Mar 16.

## **Episiotomy pain relief: Use of Lavender oil essence in primiparous Iranian women.**

### **Abstract**

#### **INTRODUCTION:**

Post-episiotomy discomfort and its consequences can affect maternal quality of life and mental health as well as the mother and baby relationship. Complementary medicine is increasingly used and Lavender oil is frequently prescribed due to its antiseptic and healing properties.

#### **METHOD:**

This clinical trial involved 60 qualified primiparous women admitted for labor in Kamali Hospital in Karaj, Iran. They were randomly categorized into two groups: case (using Lavender oil) and control (usual hospital protocol). Participants pain and discomfort were recorded using a Visual Analogue Scale (VAS) and a Redness, Edema, Ecchymosis, Discharge Scale (REEDA). Pain was evaluated at 4 h, 12 h and 5 days following episiotomy. Collected data was analyzed in SPSS 14 using an independent t-test and chi-square.

#### **RESULTS:**

There was a statistical difference in pain intensity scores between the 2 groups after 4 h ( $p = 0.002$ , and 5 days ( $p = 0.000$ ) after episiotomy. However, differences in pain intensity between the two groups, at 12 h post-surgery, were not significant ( $p = 0.066$ ). The REEDA score was significantly lower in the experimental group (Lavender oil group) 5 days after episiotomy ( $p = 0.000$ ).

#### **CONCLUSION:**

According to these findings, use of Lavender oil essence can be effective in reducing perineal discomfort following episiotomy. It is suggested that Lavender oil essence may be preferably to the use of Betadine for episiotomy wound care.

Complement Ther Clin Pract. 2011 Feb;17(1):50-3. doi: 10.1016/j.ctcp.2010.05.006.  
Epub 2010 Jun 17.

## **Healing advantages of lavender essential oil during episiotomy recovery: a clinical trial.**

### **Abstract**

Episiotomy is the most common perineal incision in obstetric and midwifery. Nowadays alternative and complementary methods such as Aromatherapy using essential oils are established as an alternative therapy. This research was carried out to assess the effect of lavender oil in wound healing. This randomized control trial was conducted on 120 primiparous women with singleton pregnancy, without any acute and chronic disease and allergy who had undergone normal spontaneous vaginal delivery and episiotomy. They were randomly allocated in case and control groups. Case group received

lavender oil and controls received povidone-iodine. Incision sites were assessed on the 10th day postpartum. 25 out of 60 women in lavender group and 17 mothers in control group had no pain ( $p = 0.06$ ). There was no significant difference between two groups in surgery site complications. However, redness in lavender group was significantly less than controls ( $p < 0.001$ ). This study suggests application of lavender essential oil instead of povidone-iodine for episiotomy wound care.

J Obstet Gynaecol. 2015;35(5):472-5. doi: 10.3109/01443615.2014.970522.

### **Lavender-thymol as a new topical aromatherapy preparation for episiotomy: A randomised clinical trial.**

#### **Abstract**

The objective of this study was to evaluate the effectiveness of topical lavender-thymol in promoting episiotomy healing. This placebo-controlled, single-blinded, randomised clinical trial involved 60 primiparous women. REEDA score was used to evaluate the outcome of the trial. On the 7th post-partum day, women in Placebo-treated group had worse Redness, Edema, Ecchymosis, Discharge and Approximation (REEDA) score of  $3.93 \pm 3.65$  compared with those in Lavender-thymol-treated group ( $2.03 \pm 1.7$ ) with significant difference ( $P = 0.013$ ). Visual analogue Scale (VAS) score for pain at episiotomy in Lavender-thymol-treated group was  $3.5 \pm 1.9$ , whereas in Placebo-treated group it was  $2.1 \pm 2.2$  ( $p = 0.011$ ) for dyschezia,  $3.8 \pm 1.7$  and  $2.8 \pm 1.6$  in Placebo- and Lavender-thymol-treated women, respectively ( $p = 0.023$ ). At 7th post-partum week, dyspareunia was more severe in Placebo-treated group compared with that in Lavender-thymol-treated group ( $5.3 \pm 2.7$  vs  $2.7 \pm 1.5$  and  $p < 0.001$ ). Topical aromatherapy using lavender-thymol was highly effective, suitable and safe for episiotomy wound care with little or no expected side effects compared with that using placebo.

Worldviews Evid Based Nurs. 2015 Dec;12(6):370-9. doi: 10.1111/wvn.12122. Epub 2015 Nov 2.

### **Effects of Lavender Tea on Fatigue, Depression, and Maternal-Infant Attachment in Sleep-Disturbed Postnatal Women.**

#### **Abstract**

#### **BACKGROUND:**

Lavender inhalation aromatherapy is widely believed to impart a hypnotic effect, act as a mood stabilizer, and enhance the positive feelings of mothers toward their infants. However, research into these and other potential therapeutic effects of lavender tea has been limited.

#### **AIMS:**

This study was conducted in Taiwan to evaluate the effectiveness of lavender tea in relieving sleep quality, fatigue, and depression; and in improving maternal-infant attachment during the early postpartum period.

#### **METHODS:**

A total of 80 Taiwanese postnatal women with poor sleep quality (Postpartum Sleep Quality Scale; PSQS score  $\geq 16$ ) and with no history of allergy to herbal teas, foods, or medicines were assigned systematically to either the experimental group ( $n = 40$ ) or the control group ( $n = 40$ ). The participants in the experimental group were instructed to drink one cup of lavender tea after spending time to appreciate and smell the aroma each day for a period of 2 weeks, whereas their control group peers received regular postpartum care only. The PSQS, Edinburgh Postnatal Depression Scale, Postpartum Fatigue Scale, and Postpartum Bonding Questionnaire were used to assess outcomes.

#### **RESULTS:**

ANCOVA analyses using education level and pretest scores as covariates showed that experimental group participants perceived less fatigue ( $F = 6.281$ ,  $p = .014$ ) and depression ( $F = 4.731$ ,  $p = .033$ ) and showed greater bonding with their infant ( $F = 4.022$ ,  $p = .049$ ) compared with the control group. However, the scores for all four instruments were similar for both groups at the 4-week posttest, suggesting that the positive effects of lavender tea were limited to the immediate term.

#### **LINKING EVIDENCE TO ACTION:**

Healthcare researchers assume accountability for integrating research results into clinical practice. The findings in this study can gain greater attention among healthcare practitioners and encourage the correct and positive use of herbal therapy in postpartum health care.

J Adv Nurs. 2016 Feb;72(2):306-15. doi: 10.1111/jan.12836. Epub 2015 Oct 20.

#### **Effects of an intervention with drinking chamomile tea on sleep quality and depression in sleep disturbed postnatal women: a randomized controlled trial.**

##### **Abstract**

##### **AIM:**

The purpose of this study was to evaluate the effects of chamomile tea on sleep quality, fatigue and depression in postpartum women.

##### **BACKGROUND:**

Sleep quality is a significant issue for postnatal women. Chamomile is widely used as a folk remedy for its presumed sedative-hypnotic effects.

##### **DESIGN:**

A pretest-post-test randomized controlled trial was used.

##### **METHODS:**



A total of 80 Taiwanese postnatal women with poor sleep quality (Postpartum Sleep Quality Scale; PSQS score  $\geq 16$ ) were recruited from November 2012-August 2013. They were systematically assigned, with a random start, to either the experimental group (n = 40) or the control group (n = 40). The participants in the experimental group were instructed to drink chamomile tea for a period of 2 weeks. The participants in the control group received regular postpartum care only. The PSQS, Edinburgh Postnatal Depression Scale, and Postpartum Fatigue Scale were used to assess outcomes. Two-sample t-tests were used to examine the mean differences in outcome variables between the two groups.

### **RESULTS:**

Compared with the control group, the experimental group demonstrated significantly lower scores of physical-symptoms-related sleep inefficiency ( $t = -2.482$ ,  $P = 0.015$ ) and the symptoms of depression ( $t = -2.372$ ,  $P = 0.020$ ). However, the scores for all three instruments were similar for both groups at 4-week post-test, suggesting that the positive effects of chamomile tea were limited to the immediate term.

### **CONCLUSION:**

Chamomile tea may be recommended to postpartum women as a supplementary approach to alleviating depression and sleep quality problems.

Pak J Biol Sci. 2011 Jun 1;14(11):664-7.

### **Lavender essence for post-cesarean pain.**

#### **Abstract**

Post cesarean (CS) pain is a challenging problem for the obstetricians, because it may interfere with mother and baby's well-being. Many approaches have been ever proposed to diminish this pain, each one with particular benefits and limitations. Aromatherapy is a complementary therapy especially for controlling pain. This study aimed at evaluating the effect of lavender essence on post CS pain. In a single-blind clinical trial, 200 term pregnant women with planned elective CS were recruited in a 12 month period of time. They were randomized in two 100-patient groups; received either lavender essence (the case group) or a similar clinically neutral aromatic material (the control group) thorough oxygen mask for 3 min 3 h after receiving similar intravenous analgesics. The Visual Analogue Scale (VAS) was employed to determine the level of post CS pain. The VAS was documented half hour after first intervention. Eight and 16 h later, the aromatherapy was repeated and half hour after each intervention, corresponding VAS was documented. The two groups were matched for demographics and obstetrical history. The baseline VAS was comparable between the two groups. The mean VAS decreased significantly by 16 h after the first intervention in both groups ( $p < 0.001$ ). However, this amelioration of pain was significantly more prominent in the cases group comparing with that in the controls in all documented stages half hour, 8

and 16 h after the first intervention ( $p < 0.001$  for all measurements). In conclusion, aromatherapy by using lavender essence is a successful and safe complementary therapy in reducing pain after CS.

Anesth Pain Med. 2013 Summer;3(1):203-7. doi: 10.5812/aapm.9570. Epub 2013 Jul 1.

### **The Effect of Inhalation of Aromatherapy Blend containing Lavender Essential Oil on Cesarean Postoperative Pain.**

#### **Abstract**

#### **BACKGROUND:**

Pain is a major problem in patients after cesarean and medication such as aromatherapy which is a complementary therapy, in which the essences of the plants oils are used to reduce such undesirable conditions.

#### **OBJECTIVES:**

In this study, the effect of aromatherapy using Lavender (*Lavandula*) essential oil on cesarean postoperative pain was assessed.

#### **MATERIALS AND METHODS:**

In a triple blind, randomized placebo-controlled trial study, 60 pregnant women who were admitted to a general hospital for cesarean section, were divided randomly into two groups. After cesarean, the Lavender group inhaled about 3 drops of 10% Lavender oil essence and the placebo group inhaled 3 drops of placebo after the start of postoperative pain, four, eight and 12 hours later, for 5 minutes from the 10 cm distance. Patient's pain was measured by the VAS (Visual Analog Scale) score before and after each intervention, and vital sign, complications and level of satisfaction of every patient were recorded before and after aromatherapy.

#### **RESULTS:**

There was no statistically significant difference between groups in age, height, weight, and time to the first analgesic requirement. Patients in the Lavender group had less postoperative pain in four ( $P = 0.008$ ), eight ( $P = 0.024$ ) and 12 ( $P = 0.011$ ) hours after first medication than the placebo group. The decreased heart rate and patients' level of satisfaction with analgesia were significantly higher in the Lavender group ( $P = 0.001$ ). In the placebo group, the use of diclofenac suppositories for complete analgesia was also significantly higher than the Lavender group ( $P = 0.008$ ).

#### **CONCLUSIONS:**

The inhaled Lavender essence may be used as a part of the multidisciplinary treatment of pain after cesarean section, but it is not recommended as the sole pain management.