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Comparing the Effect of Aromatherapy With Essential Oils of *Rosa damascena* and Lavender Alone and in Combination on Severity of Pain in the First Phase of Labor in Primiparous Women

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Abstract

Objectives: Labor pain is an indispensable component of delivery process; however, excessive pain can reduce uterine contractions and delivery progress rate. This study was executed to compare the effect of aromatherapy with *Rosa damascena* and lavender essential oils on severity of pain in the first phase of delivery in primiparous women.

Materials and Methods: In this clinical trial, 120 primiparous women with a dilatation of 3-4 cm were randomly selected from maternity hospitals of Zahedan and divided into 4 groups: 'inhalation of essential oils of *R. damascena*', 'lavender', 'their combination', and 'distilled water'. The participants were asked to inhale the aroma during contraction and the severity of their pain was determined based on the visual scale of pain prior to the intervention and also 30 and 60 minutes after it. The data were analyzed using SPSS, chi-square test, one-way analysis of variance (ANOVA), repeated measure covariance analysis, and Bonferroni correction.

Results: Comparison of the mean severity of pain in the 4 groups before the intervention showed a significant difference ($P=0.001$). Controlling the pre-test effect demonstrated that the essential oil aromas (*R. damascena*, lavender, and their combination) significantly reduced the mean severity of pain at 30 and 60 minutes after the intervention relative to distilled water ($P=0.001$), however, the difference between the three treatment groups was not significant.

Conclusions: The results indicated that aromatherapy using essential oils of lavender, *R. damascena*, and their combination can reduce the severity of labor pain as an uncomplicated non-pharmacological approach.

Keywords: Aromatherapy, Pain of labor, Active phase

Introduction

Delivery is a stressful condition for pregnant women and its resulting pain is a common phenomenon and an unavoidable component of the delivery process, which is severe in more than half of the pregnant women (1,2). Excessive pain can exacerbate mother's fear and anxiety, thereby reducing the contractility of the uterus and the rate of delivery progress (3,4). It has been shown that 71% of the mothers selected cesarean section due to the fear of delivery pain, which, in turn, caused complications for the mother and her fetus (5).

There is a huge difference between the rates of cesarean section in the international level and our country. Cesarean section accounts for 10%-20% and 50%-65% of deliveries worldwide and in Iran, respectively (6, 7) while the World Health Organization (WHO) recognizes 15% as the acceptable cesarean rate for 2010 (8-10). Some statistics confirm the indication for only 23.2% of the cases of cesarean section and 67.8% of them have been attributed to other causes including fear of delivery pain (59%) and difficulty of previous natural delivery (3.9%). This high rate of cesarean section significantly increases maternal and infant complications (11).

Delivery pain control is considered as a goal of midwifery care (4). In recent years, physicians and researchers have come to believe that safe, secure, and effective interventions must be used to reduce the pain intensity in mother and her fetus (12). In addition, the fear of normal delivery pain can be decreased by creating a pleasant experience of delivery (13). There are pharmacological and non-pharmacological methods to relieve the pain. Pharmacological methods include systemic administration of drugs as well as inhalation, general, and regional anesthesia but approaches such as hypnosis, massage, aromatherapy, and reflexology are the non-pharmacological methods (14). Unfortunately,

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there is no analgesic without adverse effects on labor and fetus (12). Some researchers believe that the use of non-pharmacological methods to relieve the delivery pain is superior to pharmacological ones for the reasons like cheapness, easiness of use, noninvasiveness, causing self-confidence, and involvement of patients (15). Meanwhile, aromatherapy is a complementary non-pharmacological therapeutic approach of alternative medicine in many countries (16,17). The inhalation of aromatic herbal essential oils produces odor impulses from olfactory receptors causing drug-like effects on the brain and nervous system, which consequently, reduce pain and induce relaxation by increasing the release of neurotransmitters (16-18). Although studies have shown that essential oils do not cause toxic effects on the fetus despite passing through the placental barrier and can be safely used for the labor (19,20), they can be misused like drugs and should be used with caution through applying the lowest possible dose and frequency by midwives until further investigations (21).

Several compounds are used as essential oils in aromatherapy including essential oils from Damask rose and lavender (22). Damask rose *(Rosa damascene)* contains three hundred different types of compounds that decrease the activity of sympathetic system but increase that of the para-sympathetic system (23). Citronellol and phenylethyl alcohol in Damask rose have anti-anxiety effects (24). Several textbooks have repeatedly emphasized the lack of toxicity and non-lethality of rose extract (23-25); however, it has rarely been used in studies despite its soothing and anti-anxiety effects.

Lavender (*Lavandula*) is a plant of *Lamiaceae* family, which contains linalool alcohol, ketone, and stearaldehyde. The ketones in lavender reduce pain and inflammation and contribute to sleep and the esters prevent muscle spasms in addition to decreasing tension and depression (26-28). Researches conducted to assess the effect of aromatherapy on pain relief in patients have given contradictory results. Burns et al showed that lavender aromatherapy reduced pain and anxiety, strengthened uterine contractions, and decreased the duration of the first phase of labor (29). In addition, Alavi found that the lavender aroma was useful in reducing pain during the active phase of labor (30). However, in another study, Burns et al reported that aromatherapy had little effect on clearly soothing pain during labor and decreasing the rate of cesarean section, and that the aromatherapy with lavender had no significant effect on accelerating the first and second phases of labor and just calmed the anxiety and fear of women during the labor, obviously decreasing the use of narcotic drugs (31). In another study, Myung-Haeng et al considered no effect for essential oils in the delivery process and attributed the diversity in results of the studies to differences in various techniques of aromatherapy (32). In a review paper, Smith et al highlighted controversial results in the use of aromatherapy for maternal delivery and recommended further studies in this regard (33).

In another study it was found that women had a particular tendency to use herbal medicines and frequently used them to treat problems associated with pregnancy and delivery (34). Moreover, the pain relief and consequent reduction in anxiety and duration of delivery has been found to be a component of the modern midwifery care (35). Essential oils are used individually and in combination and it is fully accepted that the effect of a mixture of oils is higher than a single oil, which is referred to as the synergistic or intensifying effect. So far, several studies have been conducted on the effect of essential oils from Damask rose and lavender on anxiety and pain, but the combined effect of these two herbs on labor has not been studied. The essential oil of Damask rose may cause allergic effects such as sneezing and coughing (35,36); thus, it is better to use it together with another drug to eliminate its complications and to take advantage of its effect on pain and anxiety. Considering the above-mentioned points, the researcher aimed to conduct a study comparing the effects of aromatherapy with the essential oils of Damask rose and lavender alone and in combination, on the pain intensity of the first phase of labor in primiparous women referred to the maternity hospitals of Zahedan.

Materials and Methods

This study was a clinical trial, which registered in the Iranian Registry of Clinical Trials website (IRCT2017012323370N4; https://www.irct.ir/) conducted on 120 women who referred to maternity hospitals of Zahedan in 2015. The sample size in this study was computed using the formula for comparing the means according to the study of Vakilian et al (13):

The available sampling method was used for the pregnant women visiting the maternity hospitals in Zahedan, who had the criteria for entering into the study. For random allocation, the research units were divided into 4 study groups using randomization with inertial blocks.

After approving the research plan, obtaining the approval of the ethics committee of the university, and also taking the recommendation from Faculty of Nursing and Midwifery of Zahedan and its submission to head of the hospital, the researcher attended the research environment and handed informed consent forms to pregnant women meeting the conditions for entering into the study. The inclusion criteria were as follows: gestational age of 38-42 weeks, aged 18-35 years, cephalic presentation, normal state of amniotic fluid and fetus, single pregnancy, dilatation of 3-4 cm, holding at least primary education certificate, no history infertility, acute and chronic diseases, asthma, eczema, allergies and drug addiction, no severe mental excitations within the past six months, and not being a medical staff. The exclusion criteria were receiving analgesic, sedative, and opioid drugs within three hours before and during the study, use

of oxytocin for the induction and prophylaxis of labor as well as mothers deviated from the normal course of labor in need of special care and cesarean section, or those allergic to essential oils during use.

The data collection method was based on interview, examination, and direct observation. The research instrument included: 1) demographic data form (that is information about the date of last menstruation, age, body mass index, place of residence, education level, employment, and economic status); 2) observation, and examination checklist (containing information on the current pregnancy, pelvic exam results upon admission of the pregnant woman as well as before and after intervention, vital signs, and data about the type of delivery); and 3) the visual analogue scale (VAS) was used for determining the pain intensity. The VAS scores were 10 cm line that was used to categorize pain as either, no pain (0 cm), mild pain (1-3 cm), moderate pain (4-7 cm), and severe pain (8-10 cm). Studies have shown that VAS has a good level of validity for measuring the pain intensity and has been used in various studies (37). According to Wall and Melzack, VAS is a valid and reliable scale (38). The reliability of this scale was determined using the equivalence method in the present study. In the pilot study, the pain intensity of 20 mothers was once measured by the researcher and once by the researcher's assistant using the mentioned scale; the correlation between them was estimated to be 0.95 for the pain measurement. Content validity method was used to determine the validity of the data form as well as the observation and examination checklist. The data registration form was compiled using books, papers, and scientific resources; its validity was reviewed by taking feedback from ten faculty members of Nursing and Midwifery Faculty of Zahedan University of Medical Sciences and the necessary revisions were made. The equivalence reliability method was used to determine the reliability so that in the pilot study, the mentioned forms were separately completed for 20 pregnant women meeting the research conditions, by the researcher and a midwife responsible for the maternity hospital (researcher's assistant); the reliability of the data form and observation was determined as $r = 0.93$.

Eligible and available individuals were selected after obtaining consent and were randomly allocated into one of the 4 groups. The method used for inhalation was a semi-closed system. The first group inhaled 0.1 ml of essential oil from Damask rose mixed with 2 mL of distilled water (DW); the second group inhaled 0.1 mL of essential oil from lavender mixed with 2 mL of DW; the third group inhaled a mixture of 0.1 mL of essential oil from Damask rose with 0.1 mL of essential oil from lavender together with 2 mL of DW; and the fourth group (the control group) inhaled 2 mL of DW. The essential oils with 1.5% concentration were prepared by Barij Essence Company using distillation method 10×10 cm^2 gauzes impregnated with essential oils were attached to the collar of the samples. The dosage of essential oils was determined by expert advice of the herbal medicines of Barich Company and also using the data of Alawi's studiy (30). Inhalation of herbals was chosen for treatment since it was a simple procedure and the patient could relieve the scent easily if they did not want to use it. Only one group was studied each day to avoid bias. In addition, following the intervention, in the absence of reduction of pain in pregnant women in all 4 groups and on their request, Entonox® was used. It should be noted that VAS was completed in 3 phases: before intervention and also 30 and 60 minutes after the intervention.

Statistical Method

Data related to qualitative and quantitative variables were reported as frequency (percentage) and mean ± standard deviation (SD), respectively; and the data analysis was performed using SPSS software version 21. To examine the homogeneity of qualitative and quantitative variables in different treatment groups, chi-square, Fisher exact tests and one-way ANOVA were used, respectively. In addition, for intra-group and inter-group comparisons, repeated measures ANCOVA (time-group) and Bonferroni correction were applied through controlling the effect of pre-test. The data were analyzed using SPSS software, version 21 (39) and the level of $P<0.05$ was considered as significant.

Results

The results of the present study indicated that all of the 4 study groups were homogeneous in terms of education level, income, occupational and insurance status, and also age ($P > 0.05$) (Table 1).

The mean (SD) of pain intensity regarding the score in 4 groups of pregnant women during follow-up period are presented in Table 2. Since there was a significant difference in pain intensity, before the intervention, in the 4 groups according to results of one-way ANOVA ($P < 0.001$), repeated measures ANCOVA was used to control the effect of pre-test (Table 2). After controlling for the significant effect of pre-test based on repeated measures ANCOVA, a significant decrease was observed in pain intensity of the subjects in the three aromatherapy groups of Damask rose, lavender, and the combination group, indicating a significant difference in each of the aromatherapy groups after 30 and 60 minutes (Figure 1). Table 3 also shows this trend in 4 treatment groups ($P < 0.001$). Furthermore, there was a significant difference between the mean pain intensity in the 4 groups. Moreover, based on this model, the interaction between the group and the treatment was significant, indicating the difference in treatment process among different groups, which can be seen in Figure 1 ($P < 0.001$). According to the comparisons of Bonferroni corrected test, this difference was observed between each of the Damask rose, lavender, and combination groups along with the control group (DW) ($P < 0.001$). Table 4

Table 1. Comparison of Demographic Characteristics of Subjects in 4 Groups of Damask Rose, Lavender, Combination, and DW (Placebo) Inhalation

Variable		Damask rose No. (%)	Lavender No. (%)	Combination No. (%)	DW No. (%)
Education[a]	Under high school diploma	17 (14.2)	14 (11.7)	10(8.3)	13 (10.8)
	High school diploma	8 (6.7)	9 (7.5)	8 (6.7)	5 (4.2)
	University education	5 (4.2)	7 (5.8)	12(10.0)	12 (10.0)
	Total	30 (25)	(25) 30	(25) 30	30 (25)
Income[a]	Lower than subsistence	6 (5.0)	1 (0.8)	2(1.7)	3 (2.5)
	Near & higher than subsistence	24 (20)	29 (24.2)	28 (23.3)	7 (22.5)
	Total	30 (25)	30 (25)	30 (25)	30 (25)
Occupational status[a]	Housewife	21 (17.5)	22 (18.3)	23 (19.2)	23 (19.2)
	Employed	4 (3.3)	2 (1.7)	4 (3.3)	1 (0.8)
	Student	5 (4.2)	6 (5.0)	3 (2.5)	6 (5.0)
	Total	30 (25)	30 (25)	30 (25)	30 (25)
Insurance use[a]	Yes	26 (21.7)	28 (23.3)	27 (22.5)	26 (21.7)
	No	4 (3.3)	2 (1.7)	3 (2.5)	4 (3.3)
	Total	30 (25)	30 (25)	30 (25)	30 (25)
Age (mean ± SD)[b]		22.0±3.7	21.6±2.8	22.3±3.0	21.9±2.5

[a] Chi-square test; [b] ANOVA test.

Table 2. Mean Variations in Mean and Standard Deviation of Pain Intensity in Terms of Score in 4 Groups of Pregnant Women During Follow-up

Variable	Time	DW Group Mean ± SD	Damask Rose Group Mean ± SD	Lavender Group Mean ± SD	Combination Group Mean ± SD
Mean pain intensity	Before Intervention	6.1±1.0	8.2±1.1	6.8±1.3	7.1±1.2
	30 Minutes After Intervention	7.2±1.1	7.2±1.6	5.9±1.3	5.9±1.1
	60 Minutes After Intervention	8.5±1.0	6.2±1.8	4.9±1.1	5.1±1.1

Table 3. Results of Multiple Pairwise Comparisons Between Groups Based on Bonferroni Correction

Group Name	Group Name	Mean Difference	Standard Error	*P* Value
Damask rose	Lavender	0.077	0.156	1.000
	Hybrid	0.260	0.152	0.541
	Distilled Water	-2.995*	0.170	0.001
Lavender	Hybrid	0.183	0.145	1.000
	Distilled Water	-3.072*	0.148	0.001
Hybrid	Distilled Water	-3.255*	0.151	0.001

Note: The mean difference is significant at the 0.05 level. * $P < 0.05$; adjustment for multiple comparisons: Bonferroni.

Table 4. Comparison of Mean Score Change of Labor Pain in 4 Groups Over Time (N = 120)

Group	Mean Change Over Time	Mean Difference From Control Group	Group Effect F (*P* Value)	Time Effect F (*P* Value)	Interaction Effect (Time*Group) F (*P* Value)
Damask rose	-1.0	-2.995	200.779 (<0.001)	0.472 (0.493)	56.329 (<0.001)
Lavender	-1.0	-3.072			
Hybrid	-0.8	-3.255			
Distilled water	1.3				

also shows the mean change in the 3 intervention groups compared to the control group.

Discussion

The findings of this study showed that the applied aromas (Damask rose, lavender, and combination) significantly reduced the mean pain intensity at 30 and 60 minutes after the intervention compared to DW group ($P = 0.001$); however, the difference between the three treatment groups was not significant. Furthermore, the results revealed that aromatherapy with Damask rose had more (but not significant) effect on soothing the pain at 30 and 60 minutes after the intervention compared to lavender and combination aromatherapy, and that lavender was somehow more effective than the combination group.

Qiasi et al showed that the inhalation of a combination

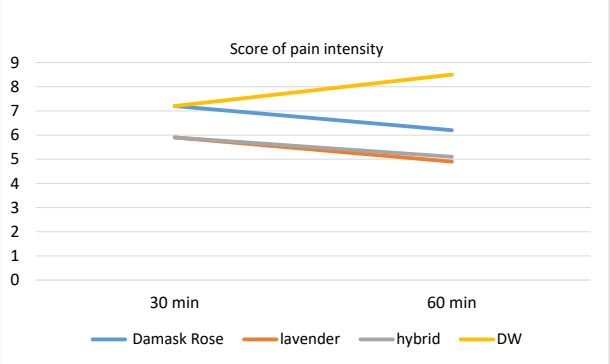

Figure 1. Mean Variations in Pain Intensity in 4 Groups Under Study at 30 and 60 Minutes With Control for the Significant Effect of Pre-test.

of essential oils from Damask rose and lavender had a significant difference in calming the anxiety compared to the inhalation of sesame oil individually (40). In a deductive study, the use of aromas was involved in the intervention by the research units for half an hour each night for 4 weeks. In addition, in another study by Qiasi et al, the control group received sesame oil while in the intervention group, seven drops of lavender and three drops of Damask rose essential oils were used. However, in the present study, the same amount of essential oils was used in the combination group (0.1 mL for each of Damask rose and lavender essential oils). In the present study, the combination of 2 essential oils of Damask rose and lavender reduced the pain only 30 minutes before the intervention compared to the inhalation of each of them, separately, but the difference between the intensity of pain at 30 and 60 minutes was lower as compared to the other 2 groups (Damask rose and lavender). Therefore, an increase in the number of essential oils drops in the combination group is likely to cause further durable relief in pain intensity. In fact, the present study was consistent with the study of Qiasi et al regarding the higher effectiveness of the combination group compared to the control group; however, in the mentioned study, the inhalation of fragrances was not performed separately compared to the combination group.

The outcomes of this study were consistent with those of the study by Seraji and Vakilian, concerning the significant effect of inhaling the lavender essential oil compared to the control group. Their study showed that inhalation of lavender essential oil significantly reduced the severity of delivery pain relative to the use of respiratory techniques (41). The difference between these two studies was in the number of measurements; there were three measurements with different dilatations in the study by Seraji and Vakilian. However, the results of both studies demonstrated the beneficial effect of lavender in reducing the delivery pain.

Lavender is an annual herbaceous herb belonging to Lamiaceae family, which has muscle relaxation and analgesic effects due to compounds such as linalool acetate and linalool (41). The results of the study by Ahmadi et al showed the positive effect of inhaling lavender extract in reducing the severity of delivery pain (42). In this study, a gauze impregnated with the essential oil from lavender was inhaled for one hour in the active phase of delivery and the intensity of pain was measured in three steps: 1) dilatation of 3-4 cm, 2) 6-8 cm, and 3) after full cervix dilatation using the VAS scale.

Pirak et al in their study found that aromatherapy using lavender essential oil was effective in reducing the intensity of delivery pain in the intervention group compared to the control group (43). In their trial, 2 drops of lavender solution diluted with DW were poured into the palm of hand of the study participants, and they were asked to place their hands at a distance of 2.5-5 cm from their nose. Inhalation was performed for three minutes and in three steps (cervix dilatations of 4-5 cm, 6-7 cm, and 8-9 cm) before and half an hour after each intervention, and then the intensity of pain was measured.

In another study by Alavi et al, the mean pain intensity at 30 and 60 minutes after inhalation of lavender essential oil was found to be lower than the control group and this difference was statistically significant (44). The method used in their study was as follows: in the intervention group, a gauze impregnated with 0.1 mL of lavender essential oil mixed with 1 mL DW was inhaled in cervix dilatation of 3-4 cm and the intensity of pain in women was recorded before and also 30 and 60 minutes after the intervention. The similarity of their study with the present study was in the amount of essential oil, measurement steps, and inhalation method. The interesting point in the current study was that in each of the lavender and Damask rose groups, the effect of essential oils of 60 minutes after inhalation was rather similar to that of 30 minutes and the intensity of pain was reduced to a higher extent relative to the study by Alavi et al; this may be due to the fact that the essential oils of this study were directly provided by Barij Essence Company.

Similarly, in another study, Mohammadkhani Shahri et al found that force of pain in the active phase of delivery was significantly lower in the aromatherapy group with lavender essential oil massage compared to the other 2 groups of massage and almond oil massage (45). In addition, Janula and Mahipal showed that massage aromatherapy with lavender essential oil significantly reduced the intensity of pain compared with non-aromatherapy massage (46). The difference between the present study with Janula and Mahipal's was in the measurement method of pain force as well as the use of massage using essential oil. However, the results of both studies indicated the effect of lavender essential oil in reducing the delivery pain of primiparous women compared to the control group. In another study, Janula and Mahipal examined the effectiveness of massage aromatherapy using lavender essential oil and biofeedback to alleviate delivery pain in comparison with normal delivery care and showed that both aromatherapy and

biofeedback caused a significant reduction in the intensity of delivery pain relative to conventional delivery care; however, massage aromatherapy using lavender essential oil resulted in greater lessening in delivery pain intensity in comparison to biofeedback (47).

In the same vein, Roozbahani et al, in their study found that the intensity of pain in rose water aromatherapy group (containing 24% essential oil from Damask rose) was significantly lower than that in the other 2 groups; however, there was no significant difference between the inhalation of DW with the maternity care group (48).

In another study by Roozbahani et al, 5 mL of Kashan rosewater was inhaled in the intervention group, aromatherapy was carried out at cervix dilatations of 8 cm and 5 cm, and the intensity of the pain was evaluated before and only 30 minutes after each intervention. The difference between the present study with the above-mentioned study existed in the application approach of rosewater. In Roozbahani and colleagues' study, the rosewater was poured into the palm of the subjects' hands and they were asked to put their hands at a distance of 2.5-5 cm from their noses and smell the rosewater; however, in the present study, the gauzes impregnated with essential oils were attached to clothes of the women for their convenience. This could be considered as an advantage of our study. Another advantage was the examination of permanence of the effect within 60 minutes after the intervention, which was not evaluated in the study conducted by Roozbehani et al.

Rose belongs to a family of plants known as *Rosacea* and is a flower that is cultivated in many parts of the world due to its extraordinary fragrance and diversity of cultivars. The Damask rose is an important rose hybrid and rosewater is derived from the distillation of this flower in Iran. The essential oil of Damask rose has solid and liquid components. The solid component is called stearoptene which is odorless. The liquid component has a strong intense smell called oleopten and contains 45%-75% geraniol, 20-40% citronellol, in addition to phenylethyl alcohol, nerol, linalool, etc; it has anti-inflammatory, analgesic, anti-oxidant, anti-cancer, and anti-microbial properties (49). In a study by Vahabi et al, a significant decrease was only observed in cervix dilatation of 8-10 cm, in pain intensity between the rosewater aromatherapy groups (containing 24% essential oil of Damask rose) and the control group; however, there was no significant difference between the two groups in 4-6 and 6-8 cm dilatations (50). The methodology of the present study was different from that of the study by Vahabi et al. In the latter study, the rosewater essential oil was inhaled using a humidifier, which might account for the lack of effect of rosewater in their study while in the current study, the essential oil from Damask rose was used with a higher concentration than rosewater and the essential oil was inhaled directly. In another study by Hur et al, a mixture of extracts from 4 plants including the essential oil of rose, was used to ~~assess~~ measure the effect of massage aromatherapy on delivery pain relief; no significant difference was observed in the intensity of pain between the massage aromatherapy and control groups (21). This difference in results can be partly justified due to the difference in aromatherapy approach, intervention time, and the time of pain measurement in these 2 studies. It is also possible to distinguish between the rose species or the difference in composition of the plant extracts used in these studies.

Different aromas stimulate the receptors located on the olfactory bulb which transfers the smell message to the limbic system resulting in the release of endorphin, enkephalin, and serotonin from this system; this leads to the reduction of stress and a sense of tranquility. Creating a sense of relaxation and relieved stress also plays an important role in the alleviation of pain. Although most researches have shown the beneficial effects of aromatherapy on delivery pain relief, further studies with strong methodologies are needed to determine the most appropriate dosage and approach given the difference in aromatherapy approaches and the number of essential oils used in existing studies (51).

In this study, the satisfaction rate of women was also assessed and the outcomes demonstrated that the level of satisfaction was higher in the combined group compared to that of the 2 other intervention groups followed by the Damask rose group. The study by Alavi et al showed that subjects in the intervention group (lavender inhalation) were more satisfied with pain control than the control group. The advantage of Damask rose over other aromas (including lavender) is its pleasant and relaxing smell. Moreover, one of the reasons for greater influence of Damask rose than lavender in this study may be the fact that people traditionally use rosewater and Damask rose for various applications and most of them are familiar with its aroma.

Limitation of the Study

One of the limitations of this study was the impossibility of blinding clients and therapists, which was due to the nature of aromatherapy; this is also present in other aromatherapy studies.

Suggestions for Further Research

The application of a combination of Damask rose and lavender aromas along with massage as well as the use of a combination of other aromas to reduce the delivery pain are recommended for further investigations.

In addition, no study was found to compare the aromas of Damask rose and lavender neither in combination nor individually; therefore, given the higher satisfaction rates of pregnant women, based on this study, along with the use of a combination of essential oils to alleviate pain, further studies are suggested with respect to aromatherapy in labor.

Conclusions

According to the ~~results~~ findings of this study, it seems that the inhalation of Damask rose and lavender aromas in combination or individually can reduce the delivery pain; therefore, it is suggested to use this low-cost and safe intervention method to alleviate maternal pain in order to avoid chemical painkiller drugs and probably reduce the number of elective cesarean sections as well.

Ethical Issues

Approval was obtained from the Ethics Committee of Research Deputy in Zahedan University of Medical Sciences (No. 6733).

Conflict of Interests

The authors declare no conflict of interests.

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