

Role Of Aromatherapy On Anxiety, Pain, Sleep Quality, And Hemodynamic Parametrs In Burn Patients; A Systematic Review Of Clinical Trials

Hormoz Mahmoudvand

Razi Herbal Medicines Research Center, Lorestan University of Medical Sciences, Khorramabad, Iran
Department of Surgery, Lorestan University of Medical Sciences, Khorramabad, Iran

*Corresponding Author:

Email: dr.mahmoudvand@gmail.com

Abstract.

Aromatherapy refers to the use of volatile oils or aromas extracted from plants for therapeutic purposes. The present study was intended to systematically review the effects of aromatherapy with various essential oils in burn patients. This review was according to the 06-PRISMA standards by searching in the English databases such as Google Scholar, PubMed, Scopus, Web of Science, and ScienceDirect to find papers about the effects of aromatherapy with herbal essential oils in burn patients with no time limitation. We used the keywords of "lavender", "rose", "essential oil", "aromatherapy", "burn", "anxiety", "pain". From 6630 papers, 10 articles up to June 2022, met the inclusion criteria for analysis in the current systematic review. The most studies were carried out on the effect of aromatherapy with rose essential oil (4, 40%), lavender essential oil (3, 30%), lavender along with rose essential oil (2, 20%), and lavender along with chamomile (1, 10%), respectively. The findings of the current systematic review revealed that aromatherapy especially with lavender and rose essential oil can improve the anxiety, pain, sleep quality, and hemodynamic parameters in burn patients. Hence, due to the convenience of using this method and the lack of reports of any complications and also the stability of hemodynamic status of patients in this method, it is recommended to use it for burn patients.

Keywords: Aromatherapy, rose, lavender, anxiety, pain, and burn.

I. INTRODUCTION

Burns are one of the major medical concern in developing countries and include 5% of hospital admissions and cause complications such as pain, anxiety and depression, which lead to long-term hospitalization of patients and a heavy economic burden on society and the patient [1]. Burn injuries and treatment also cause the most intense and long-lasting pain in burn patients. Changing the dressing is one of the most painful actions that are performed every day for these patients, and we must look for a way to reduce the pain and anxiety of the patients [2]. Aromatherapy refers to the use of volatile oils or aromas extracted from plants for therapeutic purposes [3,4]. Vegetable oils are also used through inhalation, compress, bath and massage [5, 6]. However, the most used form of aromatherapy for nurses is through massage [7, 8]. Today, aromatherapy is recognized by the American State Board of Nurses as It has been introduced as a part of nursing care, and it is also considered as an accepted part of nursing care in England (5). Aroma massage therapy is used due to the lack of harm to the patient, stress reduction, muscle tension reduction, sleep improvement and anti-inflammatory properties, and inhalation therapy aroma is used due to its effect in reducing anxiety, pain, fatigue and skin diseases [5,8,9]. Currently, a number of studies have been reported the promising effects on the aromatherapy with herbal essential oils for various medical goals, such as the reducing the anxiety in patients undergoing angiography, cardiovascular diseases, hemodialysis, general surgery, as well as the improving of hemodynamic parameters [10-12]. The present study was intended to systematically review the effects of aromatherapy with various essential oils in burn patients.

II. METHODS

Search strategy

This review was according to the 06-PRISMA standards (13) by searching in the English databases such as Google Scholar, PubMed, Scopus, Web of Science, and ScienceDirect to find papers about the the effects of aromatherapy with herbal essential oils in burn patients with no time limitation. We used the keywords of "lavender", "rose", "essential oil", "aromatherapy", "burn", "anxiety", "pain".

Article Selection

All papers which evaluated the effects of aromatherapy with herbal essential oils in burn patients were studies. After discarding duplicate papers, the title and abstract of the publications were checked and

the eligible paper that satisfactorily encountered the inclusion criteria were selected for additional analysis. As the exclusion criteria, papers with the poor data, papers searched as the abstract in congresses and conferences with no full text were excluded (Figure 1). The required data for analysis were authors name, publication year, type of surgery, dosage, intervention procedure, results, and reference.

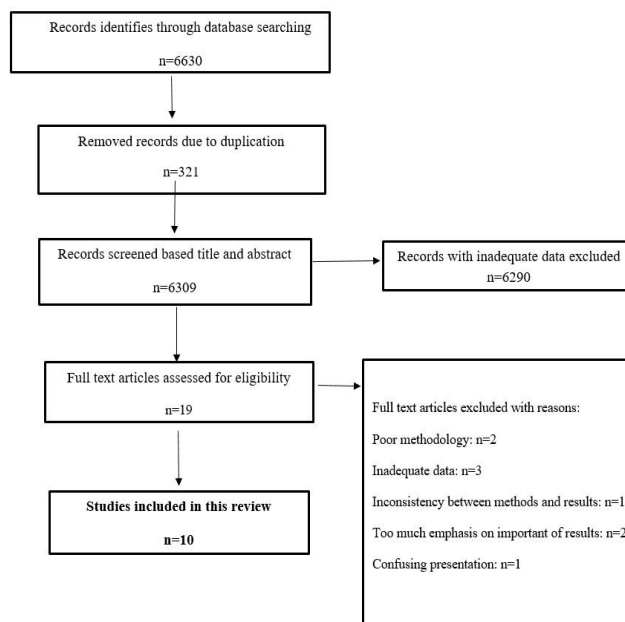


Fig 1. Flowchart describing the study design process.

III. RESULT AND DISCUSSION

From 6630 papers, 10 articles up to June 2022, met the inclusion criteria for analysis in the current systematic review (Table 1). The most studies were carried out on the effect of aromatherapy with rose essential oil (4, 40%), lavender essential oil (3, 30%), lavender along with rose essential oil (2, 20%), and lavender along with chamomile (1, 10%), respectively. Complementary medicine or alternative medicine is a set of practices and beliefs that are used for prevention, treatment and improvement of health and hygiene level along with other treatments [24]. Researchers cite people's dissatisfaction with the care system as one of the reasons for using complementary medicine [25]. The use of complementary therapies is increasing in the nursing care of many medical and care centers due to the low-risk, cost-effective, easy and low-side effects treatment. One of the methods of complementary medicine is aromatherapy. So that currently extensive clinical researches in the field of various applications of aroma therapy and the use of plant essential oils are being formed all over the world [26].

Aromatherapy is one of the most common non-pharmacological methods for reducing pain and anxiety in patients, where natural products such as lavender, rosemary, bergamot and mint are used [27]. In folk medicine, aromatherapy is used as A complementary, cheap, non-invasive method with no chemical side effects has been recommended to reduce anxiety, mental relaxation and hemodynamic stability (28). Although scientific research has not proven its effectiveness 100%, it is believed that aromatherapy can have the same effect as drugs [29]. Among different scents, rose is one of the most useful plants whose essential oil contains steric, ketone, aldehyde and terpenic compounds. is that anxiety by stimulating the olfactory center of the brain [30, 31] Some studies have reported the soothing, hypnotic, anticonvulsant and relaxing effects of rose essential oil. The most studies were carried out on the effect of aromatherapy with rose essential oil (4, 40%), lavender essential oil (3, 30%), lavender along with rose essential oil (2, 20%), and lavender along with chamomile (1, 10%), respectively. According to some researchers, during aromatherapy, the smell of plants can activate the olfactory nerve cells and ultimately the limbic system, and depending on the type of smell, the nerve cells release different neurotransmitters such as enkephalin, endorphin, noradrenaline and release serotonin, which can have a quick effect on reducing the level of anxiety and increasing the comfort of patients [30-32].

Table 1. Some studies on the effect of aromatherapy on burn patients.

Authors	Year	Essential oil	Factor	Measurment scale	Intervention process	Results	Ref
Amrollahi et al	2016	Lavender	Sleep quality	VAS	2 drops, 20 minutes in 3 nights	Aromatherapy for 20 minutes did not have a significant effect on sleep quality of burn patients.	(14)
Azizi et al	2019	Lavender	Pain	VAS	2%, 10 drops, breath 5 times, 60 min	Aromatherapy with lavender essential oil significantly relief pain conditions	(15)
Bikmoradi et al	2016	Rose	Pain (dressing)	Visual analog scale (VAS)	5 drops (40%), 20 min before dressing, 2 nights	Aromatherapy with rose essential oil significantly relief pain conditions	(16)
Daneshpajooch et al	2019	Rose	Pain and anxiety	VAS and STAI	5 drops (40%), for 20min, once daily for 3 days,	Aromatherapy with rose essential oil significantly relief pain and anxiety conditions.	(17)
Harorani et al	2016	Lavender	Anxiety	SATI	2 drops (2%), 20 min, 3 days	Aromatherapy with lavender essential significantly improved the anxiety conditions in burn patients.	(18)
Mokhtari et al	2022	Rose	Anxiety and sleep	STAI and SMHSQ	5 drops (40%) for three consecutive nights.	The results indicated a statistically significant difference in the sleep quality and anxiety score between the intervention and control groups.	(19)
Rafii et al	2020	Lavender and chamomile	Anxiety and sleep	STAI and (SMHSQ)	2 drops, 20 min, 3 times in a week	Aromatherapy significantly improved the sleep quality, and anxiety in burn patients.	(20)
Sadeghi et al	2020	Rose	Pain severity, and anxiety	VAS and STAI	6 drops, breath 5 times, 60 min	Aromatherapy can reduce the pain severity, and anxiety in burn patients.	(21)
Seyyedi et al	2019	Lavender and rose	Hemodynamic parametrs	-	7 drops lavender and 3 drops rose For 30 min	Aromatherapy lead to less changes in the vital symptoms of burn patients and ultimately reduce the duration of hospitalization and burn complications.	(22)
Seyyed-Rasooli et al	2016	Lavender and rose	Pain and anxiety	VAS and STAI	3 drops, 30min,	Aromatherapy significantly improved the pain severity, and anxiety in burn patients.	(23)

IV. CONCLUSION

The findings of the current systematic review revealed that aromatherapy especially with lavender and rose essential oil can improve the anxiety, pain, sleep quality, and hemodynamic parameters in burn patients. Hence, due to the convenience of using this method and the lack of reports of any complications and also the stability of hemodynamic status of patients in this method, it is recommended to use it for burn patients.

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