

Research Paper

The Effect of Rose Aromatherapy on Anxiety Before Abdominal Operation



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ABSTRACT

Aims Preoperative anxiety could increase postoperative pain, the need for analgesics, and the patient's hospital stay. Therefore, this study aimed to evaluate the effect of aromatherapy with rose on preoperative anxiety before abdominal operation.

Methods & Materials This clinical trial was performed on 90 patients undergoing abdominal operation at 15Khardad Hospital, in 2017. The study patients were assigned to the intervention and control groups by permuted block randomization method (n=45/group). The study instrument was the Spielberger State-Trait Anxiety Inventory (STAI). The STAI was completed before and after conducting the intervention in both study groups. The obtained data were analyzed by SPSS using descriptive statistics, Student's t-test, Paired Samples t-test, and Chi-squared test at a significance level of P<0.05.

Findings The mean±SD age of the investigated patients in the intervention and control groups were 37.13±31.35 and 44.15±51.65 years, respectively. Most frequent operation type was inguinal hernia in both study groups. Before the intervention, there was no significant difference between the two groups in terms of anxiety (P>0.05); however, after the intervention, there was a significant difference between the study groups in terms of apparent and total anxiety (P<0.05). Furthermore, there was no significant difference between the study groups, in terms of latent anxiety (P>0.05).

Conclusion Aromatherapy with rose is effective in decreasing the apparent anxiety of patients before surgery. Thus, it is recommended to be used as a complementary, inexpensive, and non-invasive treatment at healthcare centers.

Key words:

Rose, Aromatherapy, Anxiety, Operation

Extended Abstract

1. Introduction

Preoperative anxiety is a part of the surgical experience and a pervasive problem [1] that affects patients' health [2]. Anxiety could delay the patient's recovery due to reduced ability to fight infections, delayed wound healing,

and the exacerbation of stress [3]. Furthermore, the effective dose of analgesics and anesthetics increase with anxiety [4].

Previous studies have indicated that red rose essential oil has an antidepressant effect; therefore, it could be effective in treating postpartum depression and the symptoms of Premenstrual Syndrome (PMS). Additionally, applying rose essential oil has been effective in reducing the severity of anxiety in mothers and infants without any adverse effects

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[5, 6]. Mohebi-Tabar et al. also supported that this plant has anti-anxiety effects and relieves biopsychological pain [7]. Red rose essential oil has a significant impact on reducing anxiety in nulliparous women during the active phase of labor [8]. In Iranian traditional medicine, using red rose has been recommended to improve migraine pain [9], dysmenorrhea [10], musculoskeletal pain, morning sickness in pregnant women, depression, and PMS [11].

The present study aimed to investigate the effect of aromatherapy with red rose essential oil on the severity of anxiety before abdominal surgery.

2. Methods

This clinical trial was conducted on patients undergoing abdominal surgery who were hospitalized in 15-Khordad Hospital in Bidokht of Gonabad City, Iran, in 2017. In total, 90 patients undergoing inpatient abdominal surgery

were selected by random sampling method. EmsiG oral thermometer, CF02 model; sphygmomanometer; ALPK2 stethoscope; Spielberger inventory, and red rose essential oil were implemented in the present research.

3. Results

The Mean±SD age of the investigated patients in the intervention and placebo groups was 37.13±31.35 and 44.15±51.65 years, respectively. The most frequent type of operation in both groups was inguinal hernia surgery. Prior to the intervention, there were no statistically significant differences between the study groups in terms of the severity of anxiety ($P>0.05$); however, after the intervention, the statistical difference was significant in terms of the severity of apparent and total anxiety scores ($P<0.05$), the same value was not significant in terms of the severity of latent anxiety ($P>0.05$) (Tables 1 & 2).

Table 1. Comparing latent and apparent anxiety between the study groups before and after the intervention

Anxiety	Study Phase	Group	Mean±SD	Between-groups		Intergroup (Statistical Test, P)			
				Statistical Test	P	Red Rose Aromatherapy Group	Placebo Group		
Apparent	Before intervention	Red rose	51.05±44.7	Independent Samples t-test	0.079	Paired Samples t-test	Paired Samples t-test		
		Placebo	64.56±47.7						
	After intervention	Red rose	64.94±42.7	Independent Samples t-test	0.005			0.005	<0.001
		Placebo	98.43±46.7						
latent	Before intervention	Red rose	24.28±45.8	Independent Samples t	0.175	Paired Samples t-test	Paired Samples t-test		
		Placebo	64.67±48.9						
	After intervention	Red rose	24.32±44.8	Independent Samples t-test	0.068			<0.001	0.08
		Placebo	47.55±48.9						

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Table 2. Comparing the vital signs of patients in the study groups before and after the intervention

Group	Red Rose Aromatherapy			Placebo		
	Mean±SD					
Study Phase Vital Signs	Pre-test	Post-test	Paired Samples t-test, P	Before Intervention	After Intervention	Paired Samples t-test, P
Pulse	8.035±77.36	6.048±76.87	0.027	7.105±78.49	7.248±78.47	1.000
Breathing	1.581±15.00	1.588±14.98	0.317	2.199±15.73	2.170±15.71	0.310
Systolic blood pressure	12.17±128.66	12.10±128.12	0.083	11.36±127.55	11.41±127.44	0.561
Diastolic blood pressure	65.6±66.76	6.60±76.22	0.317	5.75±76.22	5.75±76.22	1.000

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4. Discussion

The present study results suggested that red rose essential reduced the severity of apparent anxiety before surgery, i.e. consistent with other studies [5, 8, 12]. Moreover, the levels of apparent and latent anxiety in patients were moderate to high before the intervention. A study explored the effect of inhaled aromatherapy on the severity of patients' anxiety before surgery. Accordingly, the mean severity of apparent anxiety before surgery was moderate to high (51.00 ± 8.94) [13]. In Kohnegi's study, however, the mean score of apparent anxiety was relatively high. This discrepancy may be due to differences in the surgery type performed on patients undergoing coronary artery bypass graft surgery; it naturally results in more severe anxiety, compared to abdominal surgery [14].

It is recommended that studies be performed with a larger sample size; the effect of rose essential oil on other anxiety-generating interventions be considered, and other psychological variables, like stress, be assessed.

5. Conclusion

Factors, such as the intervention type, the therapeutic outcomes, patient's characteristics, family support, and insurance coverage also affect the severity of the patient's anxiety. These elements could impact the research results, i.e. beyond the researchers' control. Another study limitation was the impossibility of blinding the specimens and researchers, as well as the highly stressful preoperative condition, which may have complicated the studied patients' assessment of their anxiety severity.

Ethical Considerations

Compliance with ethical guidelines

This project was approved by the Ethics Committee of the Regional Ethics Committee of Gonabad University of Medical Sciences (Code: IR.GMU.REC.1395.43). Moreover, all the instructions approved by this committee have been considered in this study.

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Authors' contributions

Conceptualization: Samaneh Najafi, Moosa Sajjadi, Amirreza Nasirzadeh, Hossein Jeddi; Methodology, Sa-

maneh Najafi, Moosa Sajadi; Investigation: Hossein Jeddi; Writing-original draft: Samaneh Najafi, Moosa Sajjadi, Amirreza Nasirzadeh, Hossein Jeddi; Writing-review & editing: Samaneh Najafi, Moosa Sajjadi, Amirreza Nasirzadeh, Hossein Jeddi; Funding acquisition: Samaneh Najafi, Moosa Sajadi; Supervision: Samaneh Najafi, Moosa Sajadi.

Conflicts of interest

The authors declared no conflicts of interest.

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