



# Effect of Orange Aromatherapy on Anxiety of Students, Faculty, and Staff in an Academic Setting

Kristina D. Everhart, SN  
Martha H. Bramlett, PhD, MSN  
Dana R. Martin, DNP, RN, CNE

Department of Nursing, Pfeiffer University, Misenheimer, NC

## Purpose Statement

The purpose of this research study is to determine the impact of aromatherapy on anxiety using orange essential oil.

## Statement of the Problem and Background

Aromatherapy has long been purported to have healing qualities, even being noted as beneficial by Hippocrates in ancient Greece (Moore, 2013). It has been utilized to treat a wide variety of illnesses and conditions including ADHD, insomnia, nausea, pain, depression, and anxiety. (Ni, Hou, Kao, Chang, Yu, Wu, and Chen, 2013; Trambert, Kowalski, Wu, Mehta, and Friedman, 2017). Aromatherapy is currently being considered for its usefulness in treating anxiety. Traditionally, in modern medicine, anxiety is treated with medications noted to have numerous side effects and addictive qualities. These drugs include benzodiazepines, beta blockers, and tricyclic antidepressants among others. All of these have significant side effects include sedation, headache and ataxia that can make normal functioning at work or home difficult. Additionally, many can lead to addiction. Furthermore, these pharmacological interventions have considerable financial cost. Lee, Wu, Tsang, Leung, and Cheung (2011) estimated the costs to be 46.6 billion in direct and indirect costs annually in the United States. Alternative treatments that can avoid the undesirable side effects, addiction, and cost associated with traditional treatment of anxiety are of substantial benefit both to the individual and to society as a whole.

## Hypothesis

It is hypothesized that those participating in the orange aromatherapy will exhibit a decrease in anxiety following 15 minutes of exposure to the orange aromatherapy.

## Review of the Literature

- Ni et al (2013) examined the impact of bergamot aromatherapy on anxiety levels of pre-operative ambulatory surgery patients
  - Bergamot group demonstrated a significantly decreased level of anxiety when compared to the control group
- Trambert et al (2017) investigated the use of aromatherapy in treating anxiety in women having breast biopsies
  - Group receiving the lavender/sandalwood treatment demonstrated a statistically significant greater decrease in anxiety than the group receiving orange/peppermint and the group receiving the placebo
- Johnson (2014) examined the impact of lemon essential oil on the test anxiety of Sophomore nursing students
  - The experimental group demonstrated significantly lower test anxiety following aromatherapy than their control group counterparts
- Hekmatpou, Pourandish, Farahani, and Parvizrad (2017) investigated the use of orange essential oil on anxiety and pain in emergency department patients with limb fractures
  - They found decreases in both pain and anxiety in patients treated with orange aromatherapy
- Goes, Antunes, Alves, and Teixeira-Silva (2012) looked at the ability of sweet orange aromatherapy versus tea tree oil and water to alleviate stress
  - Those in the control groups (tea tree oil and water) exhibited an increase in anxiety while those in the sweet orange aromatherapy group demonstrated no significant increase in anxiety

## Methodology

- Participants will be screened for inclusion and exclusion criteria:
  - Inclusion Criteria:**
    - Age 18 or above
    - Must be able to communicate in English
  - Exclusion Criteria:**
    - Allergies or sensitivity to essential oils, orange, or orange fragrance
- Consent:** The study will be explained to participants including any potential risks or benefits. Participants will then be asked to sign a consent form.
- Participants will complete a demographic questionnaire and an anxiety questionnaire called the Depression Anxiety and Stress Scale (DASS21) (Lovibond & Lovibond, 1995)
- Aromatherapy experimental protocol described below will be implemented:
  - Experimental Protocol:** This study will be conducted in the high-fidelity skills lab in the Department of Nursing. Manikins will be screened off to prevent distraction. The room is equipped with a one-way mirror and an observation room so the researcher can discretely observe the research participants. Participants will be randomly assigned to one of two groups:
    - Group 1 (Orange Aroma Group):** Participants will be taken to the room to sit for 15 minutes and will be given documents to read. The document will include articles such as the history of the university. Four drops of essential oil aromatherapy will be placed on a gauze pad and attached to the collar area of the participant's shirt. Participants will be able to leave the room prior to 15 minutes if they become uncomfortable with the aroma or wish to withdraw from the study.
    - Group 2 (Control Group):** Participants will be taken to the room to sit for 15 minutes and will be given the same documents to read as the aromatherapy group. 0.5 mL of sterile saline water will be placed on a gauze pad and attached to the collar area of the participant's shirt. Participants will be able to leave prior to 15 minutes if they become uncomfortable with the aroma or wish to withdraw from the study.
- Participants will complete the anxiety questionnaire again.

## Limitations

- Small sample size
- Anxiety questionnaire
- Single episode of aromatherapy may not be enough to generate changes in anxiety
- May have lingering smell of orange essential oil which could affect the control group



[https://free-images.com/display/orange\\_log\\_tribe\\_orange.html](https://free-images.com/display/orange_log_tribe_orange.html)

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